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THE FRUIT WORLD & MARKET GROWER

A Monthly Newspaper published in the interests of the Berry Growers, Deciduous, Citrus, Dried and Canned Fruitgrowers, and Market Gardeners.

— by the —

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EDITORIAL

Organisation in the Fruit Industry

INCREASING INTEREST is being displayed in the several sections of the fruit industry on the very important subject of organisation.

Needless to say each section of the industry has to solve its own problems as totally different conditions apply to each.

Widely divergent views are held, but these things appear to be outstanding:

(1) The need for an adequate survey of the major factors of production and distribution, so that any decisions arrived at

shall be made in the light of accurate knowledge.

(2) The spirit of goodwill and mutual understanding.

(3) A recognition of the power of advertising to develop markets.

We must remember that we Australian people inherit a continent of considerable magnitude, with a varying range of climatic and soil conditions. Yet the fact remains that the doings of people in one section or State have a profound bearing on the success or otherwise of the whole. Some still wider aspects are revealed in the

comments on an "Empire Fruit Policy."

behind them—as without that they would be powerless.

Producers of dried vine fruits are organised under legislative enactment by means of State and Federal Control Boards. Yet behind them is the efficient Australian Dried Fruits Association—a voluntary Association—which controls over 95% of the goods produced and which has shaped the general policy of the industry for over a quarter of a century. Right now the problem is looming as to the continuance of the legislative powers because of the Privy Council case which is shortly to be heard. Should that decision differ from the findings of the Australian Courts and declare for free interstate trading, the leaders of the industry may be trusted to devise a system which will yield maximum benefits. In any case, the leaders will have the weight of the considered opinion of the producers

In the canned fruit section much activity is being displayed. Here again, the exports are controlled by legislation, and local groups are operating to adequately handle the Australian trade. Where goods can be concentrated into factories or packing houses, organisation is simplified because of effective standardisation and facilities for finance. The grants from the Sugar Concession Committee are of substantial value, these having materially assisted in bringing about the present measure of stabilisation. The local trade is being developed by giving the public high quality goods at a figure within reach of the people's purse, while as regards the Empire policy efforts are being made to secure better preferential terms with the Old Country. The ad valorem duties agreed to at the Ottawa Conference are not satisfactory.

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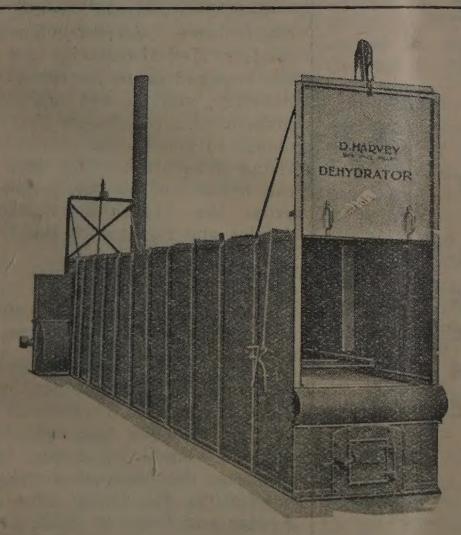
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CONTENTS

Illustrations.

Mr. J. P. Gibson 5
 Messrs. R. Thompson, C. O. Smith and G. W. Brown 5
 Arsenical Spray Residue (4 illus.) 7, 8, 9
 Jonathan Apples at Merricks North, Vic. 11
 New "Sunkist" Building 13
 Packing Pears for Export (2 illus.) 17, 23
 Packhams Pear Tree at East Doncaster 19
 Mr. Frank Booth 38

Subjects.

Advertising Pays 18
 Apple, Pear and Stone Fruit Export Regulations 33, 34
 Arsenical Spray Residue Removal 7-9
 Australian Citrus Council 15
 Autumn Budding of Fruit Trees 14
 Beekeeping Notes 39, 40
 Californian Citrus Industry 13
 Canning and Jam Fruits 23, 24
 Citrus News and Notes 13-15
 Cold Storage in Australasia 11
 Dried Fruits Department 25
 Editorial 4, 5
 Empire Fruit Policy 12
 Export and Commercial News 33, 34

Firms in the Fruit Trade	35
Fruit News from London	32
Grapefruit, Maturity Standard for	14
Home Circle	39
Horticultural Enquiries	16
Insect Pest Control	10
Junior Section	32
Market Grower, The	31
Market Notes and Prices	36-38
Mid-Murray Notes	17, 18
Motor Section	27
Nails for Fruit Cases	24
News in Brief	5
New South Wales News and Notes	21, 22
New "Sunkist" Building	13, 14
N.Z. Notes and Comments	6, 20, 34
Obituary	5
Orange Bounty	10
Overseas Trade Publicity	34
Personal	5
Pig Pen	40
Portland Show	29
Queensland	28
Retailers' Section	30
Shows to Come	19
Soil Fertility, Some Aspects of	28
South Australia	17, 18, 30
Tasmania	10, 29, 36
Victorian News and Notes	15, 19, 29, 35, 36
Western Australia	28

What is needed is a straight out duty similar to that arranged for Apples and Pears.

The "Fruit World" was of material assistance in bringing to light the inequitable position of the sugar industry as it affected the fruit industry, as reference to our files will show, and the present concession is due in no small measure to the vigorous articles then published, supplemented by the efforts of able men in the growing and processing sections of the industry. The services of the "Fruit World" are available for bringing about further needed improvements.

Citrus growers have organised in some of the States with benefit to the producers, the trade and the public. Adequate research has revealed the statistical position, but it needs the spirit of goodwill to achieve greater unity. The biggest Orange producing State is New South Wales, and growers in that State are facing problems of local and Australian-wide organisation, while at the same time crippled by the New Zealand embargo—a most unfortunate embargo entangled as it is with political considerations. Here we find the New Zealand public urgently needing our Oranges and Australia willing and

anxious to supply them, but a needless bargaining embargo stands in the way. Stripped of all side issues, New Zealand can have no fear as to quarantine or inspection methods. The provisions for the prevention of fruit fly are so ample—as have been proved over the years with New Zealand as with the adjacent sister States and local districts in New South Wales itself—that this matter cannot be taken seriously as an argument.

The articles published in this issue reveals that the medical opinion urgently wishes Australian Oranges to enter New Zealand for the sake of the children and sick folk. Surely there are men in the political arena with sufficient skill to solve any outstanding differences between friendly people of a kindred race!

Growers in each State must solve their problems according to local conditions which are of varying complexity. Possibly in New South Wales the line of approach will be that of organising according to the several major fruits concerned, as has been done in some of the other States.

In the Apple and Pear industry the outstanding success has been the Australian Apple and Pear Export Council, with its constituent State bodies consisting of growers and shippers. In this instance the State and Federal organisations have won and maintained the confidence of the growers and the Government Departments. Maximum quantities for export have been decided not only for Australia, but for New Zealand, as well, and an Empire policy has been laid down. Able men have been attracted, and their services are warmly esteemed. The successes at the Ottawa and London Conferences are of outstanding value. This subject is further dealt with in our article on "An Empire Fruit Policy." Improved grading and packing in line with world requirements followed, and this has brought about a considerable measure of stabilisation. Much yet remains to be done but the foundations have been well and truly laid for future operations.

An organisation on broadly similar lines is needed for dealing with the Australian market. Here the statistical position needs to be examined and marketing research is needed. The Apple and Pear Export Council has given a lead in this direction. An advertising campaign would undoubtedly have an uplifting effect on the industry as a whole and bring better prices to producers with increased satisfaction to the general public.

The "Fruit World" would welcome constructive correspondence from readers. Men of capacity and goodwill are engaged in an important primary industry, and we are looking to the present and the future for improvements to benefit the present and the rising generation. The way is clear for action to be taken now to improve the Australian marketing of Apples and Pears with benefit to all.

Federal Grant £100,000.

Just before going to press with our last issue the announcement was made by the Federal Government that a sum of £100,000 had been set aside for the benefit of Apple and Pear growers: the basis of distribution to be £80,000 for those who exported Apples and Pears in 1935; £10,000 as compensation for re-working fruit trees; and £10,000 for research work.

Since this announcement was made, producers' organisations in the several States have given consideration to the matter, and whilst appreciative of the action of the Federal Government in making this grant available,



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have expressed regret at the deduction of the £20,000 for the purposes named. The discussions of the Victorian Fruit Marketing Association on this subject, published elsewhere in this issue, indicate the general attitude of producers, and the Federal Government is being approached accordingly.

For some considerable time past the Australian Apple and Pear Export Council and its constituent bodies in the several States have given earnest consideration to the devising of a scheme for compensation for re-working fruit trees. After all details had been examined, however, the project was abandoned as no equitable scheme could be devised. It came, therefore, as a surprise that £10,000 should be allocated in this way, without reference to the only group which is in a position to speak with authority on this matter. The opinion is firmly held, after exhaustive consideration, that the expenses for administration and distribution of this sum would be out of all proportion to the benefits or relief to be secured.

For many years past far-sighted growers have been steadily re-working their trees—long before this became compulsory, when the Department of Commerce, at the request of the Australian Apple and Pear Export Council, gazetted varieties which alone could be exported. If any compensation were granted it certainly should be to these men who have voluntarily undertaken this work over a long period.

The spreading of £10,000 over Apple and Pear growers in Australia as compensation for re-working fruit trees would mean only the tiniest sum to those concerned, and even then the distribution would not be equitable while the expenses of administration would be enormous.

As regards horticultural research, the need for this is admitted. Nevertheless, fruitgrowers see no justification for the deduction of this sum from a grant, the original basis for which was in lieu of freight reduction. The history of the negotiations for this grant are well known.

Some time ago, when negotiations regarding overseas freights were under consideration, reductions were made in freights on wool, meat and butter, but no reduction was made in fruit freights. Concurrently, the shipping companies were negotiating for certain taxation reductions to the extent of some £125,000 which would have been passed on to the fruit industry if an equitable method could have been devised, but the spreading of the freight reduction over the whole range of ships involved would have defeated the desired objective. It was then arranged that if the Federal Government would make a direct grant to Apple and Pear growers who exported their fruit, the shipping companies would not press for their tax reductions of £125,000.

The Federal Government made available £125,000 for the 1933 season, and a similar sum for the 1934 season. For 1933 the unfortunate clause was inserted making the payment only to "necessitous" growers, but for the 1934 season the grant was distributed on a per case export basis.

The point thus needs to be reiterated that this grant was in lieu of freight reduction and no better means could be devised of assisting the increasingly important export industry. The hope is earnestly expressed therefore that when this matter comes up for final consideration in Parliament, the grant of £100,000 will be left intact for distribution to growers who exported Apples and Pears in 1935 on a per case export basis.

Personal

Mr. D. H. Case (B.Sc., Agr.), advisory officer for the Pacific Potash Ltd., is spending some time in Victoria investigating the manuring of pasture lands; later on he will be in Mildura, where arrangements are being made to carry out extensive research work in connection with the manuring of dried fruits.

Mr. A. T. Booth, Mt. Barker, W.A., Secretary of the W.A. Fruitgrowers' Association, who was ill recently, has made a good recovery. He is well and cheery and looking forward to full-time duties in the near future.

Mr. E. Ross, a director of H. Jones & Co. Ltd., Hobart, and a member of the executive of the Australian Apple & Pear Export Council, is visiting London and will observe conditions throughout the season relative to the marketing of Apples and Pears.

Mr. J. B. Mills President of the Australian Apple and Pear Export Council is having a busy time handling the fruit shipping situation in relation to the spacing of the shipping programme and the transference of space between the States according to particular needs as occasion arises.

Mr. J. L. Small, of Wm. Cooper & Nephews (Aust.) Ltd., has returned from a tour of the N.S.W. orchard districts, where he found crops to be particularly light in some districts. At Orange, light crops were general, with one or two exceptions. There was a good deal of rust about, but in one orchard he saw a crop of Josephine Pears quite free of rust through the use of Colloidal sulphur. The orchardist used Cooper's Colloidal sulphur at spur-burst and pink stage. At calyx he used the sulphur with arsenette, and again in the next arsenette spray. The crop at this orchard was particularly heavy, and this was attributed to the method of spraying. Definite results in N.S.W. show the effectiveness of Colloidal sulphur on pome fruits, and its use is becoming increasingly popular.

Mr. J. G. B. McDonald, fruitgrower, of Shepparton East, is a Country Party candidate for the Goulburn Valley electorate in the Victorian Parliament for the seat vacated by Brigadier M. W. Bourchier, who, has resigned to become Victorian Agent-General in London.

Mr. McDonald is a capable grower and a public-minded citizen. For many years past he has been President of producers' organisations, and has taken a lead in bringing about many needed reforms. A logical, convincing and vigorous speaker, Mr. McDonald can hold his own in debate, and it is certain he will receive wide support in the electorate. Committees have been formed to ensure the return of Mr. McDonald to Parliament. Mr. McDonald is appreciated for his sterling personal qualities.

Mr. H. C. Smart, who has been appointed manager of the Australian section of the Empire Exhibition, to be held in Johannesburg from September, 1936, to January, 1937, is returning to South Africa after spending some weeks in Australia in connection with the organisation of a suitable Australian exhibit.

The response which has been received to the invitation extended to the members of the business com-



Left to right: Messrs. R. Thompson, C. O. Smith (Tasmanian State Fruit Board), and G. W. Brown at Airedale Orchards, Merricks N., Vic.

munity to participate in the exhibition, has been most satisfactory, and it is anticipated that there will be no difficulty in securing a most comprehensive and attractive display of exhibits from Australia.

ATHLETE AT 69 YEARS.

Lives on Fruit.

Probably a world's record was created when Mr. J. P. Gibson, of Caulfield, Victoria, at the age of 65 years, ran successfully in the Marathon Race



Mr. J. P. Gibson.

of 26 miles at Melbourne four years ago. His diet consists solely of fruit, nuts, salads and natural foods.

Mr. Gibson has since been in England and has just returned. He looks better than ever, and despite his 69 years, runs from 6 to 10 miles every day. His motto is "Right thinking, right diet, right exercise."

Capt. A. W. Pearse, representative for the Port of London in Australia, leaves in March for England on a holiday tour. Although in his 79th year, Capt. Pearse is still as able and active as many men half his age, and can look back upon a life packed with interest. Born in London in 1857, he went to sea at the age of 17, and in due course gained his second, chief mate, and masters' certificates. He served for many years in vessels of the Royal Mail Steam Packet Company trading to West Indies and Brazil, and then transferred to the Orient Line. He afterwards went gold mining in New Zealand, and later founded the "Pastoral Review" in Sydney. During the war he was in Egypt as Chief Commissioner of the Australian Comforts Fund. He received the King's Jubilee Medal in recognition of a long career of public service. He can write J.P. and F.R.G.S. after his name and has written several books, including "A Windjammer 'Prentice" and "Windward Ho," which contain records of his experiences afloat.

In a letter to the "Fruit World," Capt. Pearse points out the advantages of London as a port of destination for Australian fruit. He states "London, within 100 miles or within 2½ hours by motor lorry, has a population of 18 millions, nearly half the population of Great Britain."

..

Mr. F. G. Gill, President of the Tomato section of the South Australian Fruit Growers and Market Gardeners' Association was in Melbourne during February, observing marketing conditions with the object of effecting improvements. Mr. Gill's visit was appreciated by all those with whom he came into contact.

News in Brief

Surprise was created at the narrow margin by which an Onion Marketing Board was created in Victoria. The needed majority was 60 per cent. of the actual votes cast, the majority was only 3 per cent. over the minimum. If a good percentage of the unpolled votes had been adverse, the Board could not have been set up.

From statements circulated during the passage of the Marketing Act in Parliament, a favorable poll of 90 per cent. was anticipated, and the result of the voting has caused much comment.

A new berry is creating much interest in California and other parts of the United States of America. This berry is known as the Boysenberry and sold readily at nearly double the prices of the Youngberries and Blackberries last season. The Boysenberry is planted in late winter or early spring, and the fruit is ready for sale during the summer months.

The spread of bunchy top disease among Bananas in the Tweed River district of N.S.W. has caused alarm. Unless the disease is checked a major disaster similar to that of 1921, when the industry was wiped out, is feared.

Obituary

Mr. John Allan, M.L.A.

All interested in primary production will regret the death of Mr. John Allan, M.L.A., of Wyuna, Victoria. The late Mr. Allan was at one time Premier, also Minister for Agriculture, in Victoria. He was always alert to serve the farming community and the general public. A genial and able man, his death will be regretted by all. Our sympathy is extended to all members of the family.

NEW ZEALAND

Export and Local Marketing

(Other references on pages 20 and 34)

Our New Zealand correspondent writes as follows, under date February 25:—

Storm Losses.

The weather conditions throughout February have been unfavorable, with the result that export picking has been delayed. With the bad start, extra effort will be required to make up the leeway. The February export figures are sure to be affected, for, when wet weather is general throughout the Dominion, ships as well as fruit packing are usually delayed.

The total storm losses reported in the February issue have not been quite so serious as originally stated, though some districts have been seriously affected, individual losses running as high as 50 per cent. and more. In some quarters, again, it is considered that the crop damage amounts to little more than a heavy thinning. Tree damage in places is serious, for the root system of the average tree

on Northern Spy stock is not the kind to withstand cyclones.

Dr. Cunningham's New Book.

The name of Dr. G. H. Cunningham's new book is "Plant Protection by the Aid of Therapeutants," and in covering a wide range of essential information, deals also with allied subjects not always so easily available to the commercial grower. The reading of this book will widen the knowledge of the experienced orchardist, and be a boon to those still gaining experience. The whys and the wherefores are in plain language, easily understandable, and, though a scientific publication, is written for the layman. It is well illustrated, and particularly well indexed.

(Copies of this book may be obtained from the Office of "The Fruit World"—15/6 post free.—Editor.)

Local Markets.

Despite seasonal vagaries, stone fruits have maintained a fairly good

level of prices throughout the marketing period. Brown rot has, however, taken toll among Peaches in particular, many otherwise excellent lines having to be sacrificed owing to this trouble. Apricots have done well; for some reason the usual glut in this fruit has been avoided this season. Tomatoes, too, have maintained a good level, accounted for possibly by crops being lighter and more or less balancing the supply with the demand.

The future of the local Apple and Pear market is at the moment rather obscure. Early varieties are already down to comparatively low figures, even though Cox's Orange are not yet being marketed in any quantity. The anticipated heavy percentage of export rejects in the principal orchard districts is sure to have a depressing influence on the market, so prospects are not of the brightest. Weather conditions lately have not been conducive to fruit consumption, but, being due for a spell of better weather, the situation may improve. It is generally conceded the buying power of the public is greater now than 12 months ago, so we have hopes the

local market will soon show returns over and above our actual costs.

Export Marketing.

The Executive Commission of Agriculture concluded the taking of evidence on the fruit industry on January 24, but at the time of writing no decision has been announced. As the chairman of the commission stated at the conclusion of the enquiry, there was a mass of evidence to be considered, and it would take time to study it.

Our new Government's

scheme of guaranteed prices
is causing a deal of speculation among primary producers. While details are lacking, it seems certain our dairy farmers are going to receive some form of guaranteed prices for their produce, and no doubt something similar will be extended to other primary producers as opportunity offers.

Any system of guaranteed prices, however cleverly devised, will no doubt have its pitfalls, some products being more difficult than others to handle, and fruit will, we think, fall into the latter category. At the present time there is a deal of uncertainty as to marketing policies under the system of guaranteed prices.

Some there are who think the Government will take over the produce, and either market it through the ordinary channels, or set up some special organisation for the purpose. Our hope is that the present marketing channels will be retained.

The goodwill of overseas operators in these days of highly competitive markets is of a value difficult even to approximate. As the proposed policy of guaranteed prices is for the purpose of assisting the farmer, we can therefore expect that the long view will be taken, so consolidating rather than breaking down existing systems. A few weeks more and we should have some definite information, an announcement having been made that details will be available to Parliament at its initial opening late in February, or early March.

One step won't take you very far,
You've got to keep on walking;
One word won't tell folks who you are,
You've got to keep on talking.

One inch won't make you very tall,
You've got to keep on growing;
One little ad. won't do it all,
You've got to keep 'em going!

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64 Cameron Street, Launceston.
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Port Huon Fruitgrowers' Co-op.
Association Ltd.,
Davey Street, Hobart.

Arsenical Spray Residue on Fruit

Recommendations for its Removal

(By C. E. Cole, B.Agr.Sc., Assistant Horticultural Research Officer.)

(Republished by Courtesy from the "Journal of Agriculture," Vic.)

WITH THE APPROACH of the Apple and Pear harvest come many difficulties which the export grower has to surmount in order that his fruit may reach the high standard demanded by markets in which competition is becoming ever keener. Not the least of these is the problem of producing fruit on which the amount of arsenic is below the tolerance of 0.01 grains of arsenic trioxide per pound of fruit; and, because a little forethought can do much to simplify the problem, it is well that each grower should familiarise himself with all the details of it.

The attack on the problem may take either of the two usual courses—prevention or cure. The main line of prevention is the adoption of the spray schedule recommended by the Department of Agriculture for the control of codlin moth, in which arsenic sprays are applied only in the early stages of the growth of the fruit, later ones being replaced by white oil sprays. The grower is assured that such a programme will give not only efficient moth control, but also will reduce the arsenical residue on his fruit below the allowable limit.

In the event of the grower adhering to the older programme for control, the intelligent use of lures throughout the season will assist him to keep the quantity of arsenic applied to the fruit down to an efficient minimum.

The longer the period that can be allowed to elapse between the final arsenical spray and picking time, the lower will be the amount of residue on the fruit at harvest.

Spreaders, which strongly protect the lead arsenate from the action of the weather, e.g., white oil as a spreader should be avoided after Christmas, as they not only keep the residue figure high, but also render after-picking treatment very difficult. As in most problems, prevention is far better than cure.

The cure becomes necessary when the fruit shows a visible white residue on its surface at harvest time. Generally speaking, the arsenical content of Apples showing a plainly visible residue will exceed the tolerance. Rare cases have been encountered in which Apples showing practically no residue have exceeded the limit, and of Apples showing distinct white spots on which the arsenic trioxide was below the limit. If in doubt, the



Apples on tree showing spray residue.

best method is to obtain an analysis of a sample consisting of those fruits on which the residue appears to be the heaviest.

Growers are advised not to attempt to wash the residue off the fruit by means of an oil spray just prior to picking. Such a spray, at best, could disguise only temporarily the presence of the residue, and would render its subsequent removal far more difficult.

Once the fruit is off the tree, wiping is the most obvious method of removing excess residue, and is used by growers to some extent. It is, however, not only extremely slow and laborious, but usually is ineffective, because of the difficulty of removing residues from the eye and stalk of the fruit. One man may wipe up to 50 cases per day by hand, with an oily rag, but he more often disguises the residue than removes it.

Some of the wiping machines developed recently may be somewhat faster than hand-wiping, but generally are less effective, and gradually lose what efficiency they have, as the residue removed from the fruit collects in the wiping material, until the amount present is equal to that on the fruit entering the machine, when no more will be removed from such fruit.

Unless the cleaning materials—usually oily sheepskins or brushes—are frequently removed and cleaned, little is gained by the use of these machines. Brushes, unless used so that the bristles do not come into contact with the fruit while at right angles to its surface, tend to puncture the delicate skin of the fruit.

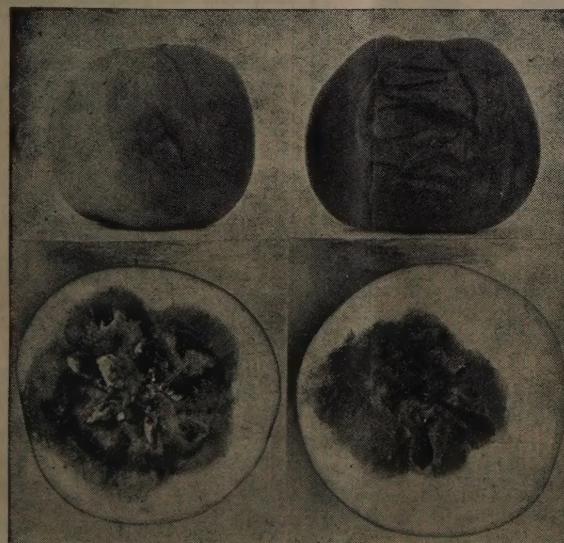


Fig. 1.—Five Crown (left) and Delicious Apples with typical rot following core penetration by acid owing to deep immersion.

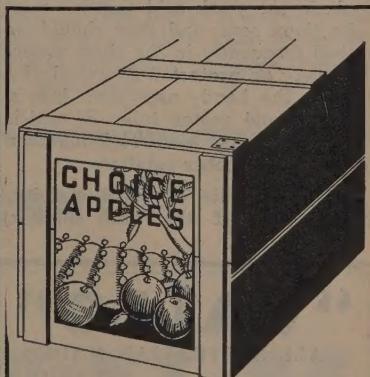
(Blocks from "Journal of Agriculture," Vic.)

RECOMMENDATIONS

For the Removal of Arsenical Spray Residue.

1. When there is a heavy residue on the fruit, avoid late oil sprays.
2. Wash fruit rather than wipe it. Washing is quicker, more effective, and cheaper.
3. A good standard wash is immersion for two minutes in 3 per cent. hydrochloric acid, but this may be varied according to conditions.
4. Wash fruit immediately after picking.
5. Keep the volume and the strength of the acid up. Change the acid completely after washing 1,000 cases per 100 gallons of solution.
6. Use free-draining cases for washing.
7. Submerge Pears to any depth, but keep Apples within 6 inches of the surface.
8. Rinse thoroughly and test the fruit for acid regularly.
9. Use constantly-changing water for rinsing where possible. If unable to do so, add lime to the rinse bath, and change it at the same time as the acid. Also use a lime bath for Apples having open calyx tubes.
10. Drying the fruit is unnecessary—it can be stored or packed immediately.

four minutes may be quite effective in removing it, and in such a case the use of the weaker solution is advisable. An oily residue on the same type of Apple would require full strength (3 per cent.) acid, and possibly more than two minutes' immersion. A waxy or greasy skin on the fruit, such as occurs on Granny Smith and Red Rome Apples, will also render the residue difficult to remove, and necessitates stronger acid or longer immersion of the fruit.



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THE BEST COLD WATER PASTE IN THE WORLD

Obtainable from all Hardware,
Paint and other Stores.

It must be clearly understood that throughout this article per cent. acid means gallons of commercial hydrochloric acid, specific gravity 1.2, per 100 gallons of solution.

For a loose residue of lead arsenate only on a non-waxy Apple (e.g., Jonathan), it may be found that immersion in 1 per cent. acid for two to

ARSENICAL SPRAY RESIDUE - continued.

The

residue on russet Pears is removed more readily than that on clear-skinned Pears. A safe rule is to use the lowest strength of acid and the shortest time of immersion that will give satisfactory removal of the residue as judged by eye, provided that each increase in strength of acid or time of immersion is accompanied by a corresponding increase in the care taken in rinsing the fruit. A limit should be placed at 4 per cent. acid and four minutes' immersion. Beyond these points it is not only unsafe but also uneconomical to attempt to remove the residue.

As the fruit is passed through the acid, a certain amount of the solution is removed on the fruit and, if they be used, will be absorbed by the cases. This loss must be replaced from time to time with solution of the same strength—e.g., if a 3 per cent. solution is being used, for each kerosene-tin of water added, one pint of concentrated acid must be poured into the trough and thoroughly mixed with the remainder of the solution.

It should always be remembered that hydrochloric acid is highly corrosive to metals, clothing, and, in the concentrated form, to flesh.

Only old clothing should be worn when using acid, and splashing avoided as much as possible. Acid solutions should be retained in earthen or wooden containers only, and the strong acid measured with an earthenware jug or glass measure. Metal containers weaken the acid, and soon break up.

A supply of bicarbonate of soda (baking soda) should be kept near the acid in case of accidents.

Any strong acid splashing on to the hands or face should be immediately washed off with plenty of clean water or a solution of baking soda, the latter particularly when the acid reaches the eyes. Long immersion of the hands in the weak acid solution may make them sore, and they should be washed frequently in the rinse water. They may be protected effectively by slipping the hand and arm into a length of old motor tube, of which the lower end has been stuck together by means of rubber solution.

Because of its chemical activity, the strength of the acid solution

slowly decreases, especially when the fruit is dipped in cases, the nails in which are readily attacked by the acid. This decrease will be reflected in the non-removal of residue, and this should be used as a guide to the strength of the acid. When normal residues begin to pass through the acid without being removed, more strong acid should be added without a corresponding amount of water until the solution once more becomes effective.

There is no simple, fool-proof test of the strength of acid which can be recommended for general use.

The safest method is to keep the strength of acid just above the point where it fails to remove the bulk of the residue. The temperature of the solution is important in this regard also, and will be mentioned later under the effects of cool storage on washing.

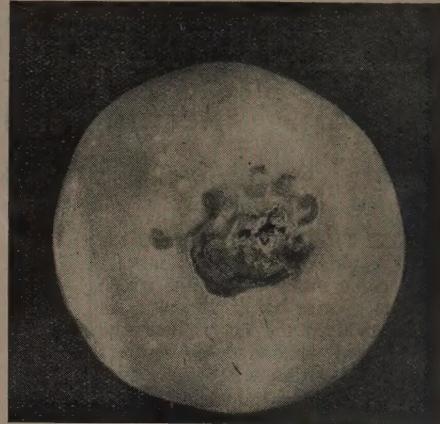
The acid bath removes from the fruit and any cases immersed in it considerable quantities of dirt and mould spores, as well as the spray residue. The dirt is unimportant, but the mould spores are a limiting factor to the life of the acid bath. There is a gradual accumulation of spores in the solution until it becomes necessary to discard it to avoid increasing the spore load of the fruit, and, simultaneously, the likelihood of mould attack.

The generally accepted standard is to change the solution completely after washing 1,000 cases of fruit per 100 gallons of solution. The waste acid should not be run on to land which may be used for growing crops, nor should it be run on to waste ground in the one place too often, as too much may render the soil acid. Grasses seem to thrive on land irrigated with the solution, but it is inadvisable to dispose of it near fruit trees. Under ordinary circumstances there is little danger from the solution, for the acid soon evaporates or combines with soil bases.

The addition of salt to the acid bath has not yet proved of any advantage in Victoria. There is some possibility that the addition of oils or detergents may enhance its value, but this has yet to be investigated more fully, and at present their use cannot be recommended.

A factor of considerable importance with many varieties of Apples is the depth to which they are submerged.

Fig. 2.—Apple showing calyx injury following inadequate rinsing after acid treatment.



Pears have no connection between the seed cavity and the eye, but in certain Apples there is a distinct passage, usually known as the "calyx tube," from the eye to the core.

The size and clearness of this tube varies with the variety and within the variety — e.g., in Granny Smith Apples the calyx tube is invariably closed, while in Delicious 50 per cent. of the fruit will have open tubes, and the remainder will have tubes closed, or nearly so. It is very easy for acid under pressure to penetrate such open tubes, and, if an Apple with an open calyx tube is submerged more than 6 inches in the solution, core penetration is almost certain to result.

Once inside the Apple, the acid cannot escape. It attacks the surrounding flesh, and stimulates mould growth to such an extent that within a few weeks the whole Apple is rotten. Figure 1 depicts typical examples of rot following core penetration.

In an experiment on this factor, Five Crown Apples submerged to six inches developed 9.2 per cent. rot, while similar Apples submerged to 12 inches developed 32.3 per cent. rot. The figure 9.2 per cent., as explained later, was reduced to 1.4 per cent. by rinsing in limewater.

It is exceedingly important, therefore, that varieties of Apples having open calyx tubes should not be submerged more than 6 inches below the surface at any time during the washing process.

Varieties known to be particularly

susceptible are Delicious, Five Crown, and Cleopatra. Until other varieties have been investigated it will be advisable to avoid deep submersion for all Apples.

Rinsing the Fruit.

Upon removal from the acid bath the fruit is drained for a short time, then transferred to the rinse bath. This should consist of a volume of water at least equal to that of the acid bath, and should be slowly and constantly changing. This is accomplished best by a slow stream of water flowing into the end of the trough opposite to that at which the overflow pipe is situated. The fruit should be thoroughly swilled in this water; then upon removal should be given a final spray or douche with clean water. The water used in this final rinse may conveniently supply the slow stream of water flowing into the rinse bath to keep it fresh.

It is essential that the fruit be tested at regular intervals to make sure that it is being rinsed sufficiently. The test is simple and reliable, and consists of applying the tip of the tongue to the calyx of the fruit—a stinging sensation or a slight acid taste indicates that more rinsing is required. Several fruits should be tested each time. If fruits inadequately rinsed are stored, calyx injury is likely to develop and render the fruit unsaleable. (See Figure 2.)

After rinsing, the fruit may be stacked in cases to await removal to the cool store, or may be packed immediately. There is no necessity for the fruit to be thoroughly dry before packing or storing, as the moisture evaporates almost as readily in store as it does in the open air.

Machine Washing.

Machines so far placed on the Victorian market are large and expensive and are suitable only for large growers or packing sheds. While as yet they have a few mechanical defects which may cause injury to certain types of fruit (e.g., Beurre Bosc Pears), they are generally satisfactory in the removal of residues, and work on sound principles. The fruit is protected from deep immersion, and the strong agitation of the solutions gives thorough washing and rinsing. They are naturally confined to areas where an abundant water supply is available.

Hand Washing.

This is the commonest method of washing fruit employed in Victoria at the present time, and calls for special considerations in addition to those which apply to any acid wash. Hand washing is carried out in troughs, which may vary from half-barrels, capable of taking one case at a time, up to long wooden troughs, which will take fifteen cases at once. A convenient-sized trough is one to take three dump cases simultaneously (see Fig. 3). Two troughs are required, and they are best constructed of Kauri

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Tasmanian Orchardists' and Producers' Co-op. Association Ltd., Hobart.

W. Hart & Sons, Davidson & French Pty. Ltd., Launceston.

ARSENICAL SPRAY RESIDUE—continued.

They must be well braced, and any metal parts used in their construction must be of copper or bronze. The complete plant specified in Fig. 3 should not cost more than £20.

The fruit is almost invariably washed in cases. Pears and Apples having a definitely closed calyx tube may be washed in dump or kerosene cases, provided there is sufficient spacing between the boards to allow free movement and drainage of the acid solution and rinsing water.

Kerosene cases are usually too tight for this purpose, but the removal of a half-inch strip from one edge of each board will make them quite suitable without spoiling the cases for other purposes.

Fruit to be washed should not be placed in papered cases, or, if papering is regarded as essential to successful storage, as in some varieties of Pears, it should be transferred to unpapered cases for washing. Paper will stop free movement and adequate drainage of the solution, and in addition will absorb a certain amount of acid, which rinsing will not remove. Fruits in contact with the paper subsequently will suffer from acid burn.

Apples in which

the calyx tube is open

must not be washed in dump cases, as some of the fruit would have to be submerged at least 10 inches to allow all the fruit to be washed. They must be picked or transferred into flat cases, such as the long bushel, opened on one side, and carefully washed in these.

After washing in acid they should be dipped in a bath of limewater (10 lb. slaked lime per 100 gallons of water) instead of the usual water bath, and preferably submerged to a depth of 1 foot. A light rinsing with running water will serve to remove any excess lime on the surface of the fruit.

An experiment conducted with Five Crown Apples (1) showed that with fruit submerged no more than 6 ins. in the acid bath, this limewater treatment reduced the rot resulting from core penetration from 9.2 per cent. to 1.4 per cent. Fruit submerged to 12 inches in the acid bath and rinsed in water developed 32.3% core rot, which was reduced only to 28.3% by dipping in limewater. The use of lime-water alone is not sufficient to protect the fruit. It is the depth of immersion in the acid bath which is of primary importance.

It is best to have a number of loose lids to fit the type of case in use. These may be lightly nailed to each case for washing, or affixed in some other temporary manner. A separate lid for each case is desirable, so that each may be moved separately in the acid and rinse troughs. Pears can sometimes be washed in unlidded cases, but Apples are lighter than water, and would float out.

Rinsing in clean water requires care in troughs. Each case should be constantly moved, and lifted right out of the water two or three times before being placed on the draining board for a final rinse with running water from a hose. One or two gallons of water is sufficient for each case of fruit. Every orchardist who has sufficient water for spraying can have running water at the troughs for rinsing. The spray cart can be filled at the supply, and brought up to the troughs. By removing the nozzle from one of the rods, slipping on to it a short piece of $\frac{1}{2}$ -inch hose or rubber tubing, and running the pump at slow speed with the by-pass fully open, a stream of water suitable for rinsing is readily obtained.

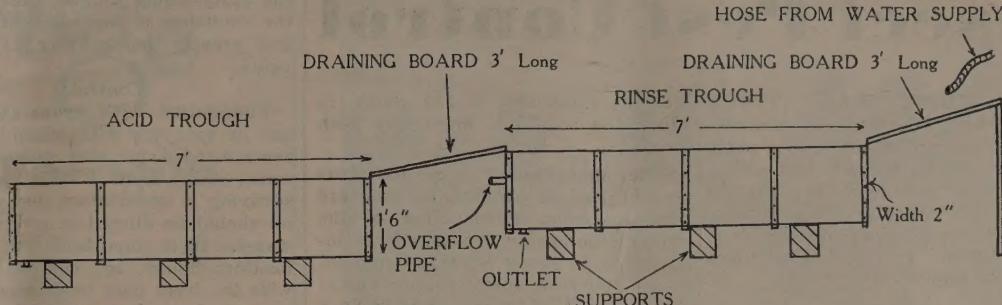


Fig. 3.—A suitable type of trough designed to take three dump cases simultaneously.

An 80-gallon vat should last for an hour or more. If necessary, the stream can be stopped between the rinsing of successive cases by means of the tap on the spray rod.

Should there be insufficient water, however, for even this method of keeping fresh water in the rinsing trough, the same water may be used for some time if a few pounds of hydrated lime are added to prevent the accumulation of acid. The life of such a rinse bath is limited by the same factor as the acid bath—the accumulation of mould spores—and it should be completely changed at the same time as the acid bath.

A definite routine can be developed which will give maximum output with the troughs.

One man is stationed permanently at each trough, and a third man attends to the supply and removal of fruit. Suppose three-case troughs are in use. The first case is immersed in the acid, swilled about for a short time, then pushed towards the other end of the trough. The second case is treated likewise; then the third is introduced, swilled, and left in position. The time taken over each case should be one-third of the total time which each is to be in the acid. The first case is then lifted on to the draining board, the two remaining in the trough pushed along, and a fourth case introduced and plunged up and down. The second case is then transferred to the draining board, the man at the rinsing trough at the same time removing the first case. This cycle is kept going in the acid and

rinsing troughs, except that the man rinsing the fruit will have to find time to use the hose as well as rinse the fruit in the trough.

When to Wash.

It is advisable to wash the fruit as soon after picking as is possible, for several reasons:

Firstly, the residue at picking time is as easy to remove as it will ever be. During storage the fruit will increase the amount of wax on its surface, and this wax will protect the residue from the action of an acid solution. It is far more difficult to remove residue from stored fruit than from freshly-picked fruit.

Secondly, it reduces handling costs. Picking can be carried on and the fruit placed in a shady spot near the troughs until sufficient has been accumulated to make a day's washing. It can then be washed and taken to the store for packing and storage. If this is not done, the fruit must be placed in store, then taken out again, transported to the troughs, and replaced in store.

Thirdly, fruit taken from the store and washed reduces the temperature of the acid bath to such an extent that it becomes ineffective. This may be overcome by replenishing the acid with warm water, but the temperature of the bath should not rise above 80 degs. F., as serious acid injury may result from higher temperatures. It must be remembered, however, that this sudden raising of the temperature of the fruit, and subsequent lowering of it, may quite easily affect its storage life.

Comparative Costs.

A comparison of the costs of wiping and washing shows a balance very much in favor of the washing. An approximate estimate of the costs is as follows:

Wiping. — One man can wipe 50 cases per day; i.e., it costs 12/- to wipe 50 cases, or 2.88d. per case.

Washing. — Take a low estimate of 40 cases per hour, or 320 per day—

Labor, three men at 12/- .	£1 16 0
Acid, 2 gallons	0 5 0
Water, 1,000 gallons (maximum)	0 1 0
Allow depreciation, etc.	0 10 0
Total	£2 12 0

I.e., cost is 1.95d. per case. This is almost 1d. per case less than hand wiping.

Washing in troughs is undoubtedly the cheapest and most effective method of reducing the amount of arsenical residue on fruit below the tolerance, and, provided the necessary precautions are taken, damage to the fruit is practically nil.

Reference.

(i) Full details of experiments on residue removal carried out by the Victorian Department of Agriculture during 1934 and 1935 will be published at a later date. The figures quoted in this article are taken from these experiments.

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Insect Pest Control

THE WHITE WAX CITRUS SCALE (*Cereoplastes destructor*) is one of the severe pests of citrus trees in N.S.W. The scales, which feed by sucking the sap, excrete quantities of "honey-dew" and a sooty mould or fungus frequently develops on the foliage, fruit or twigs upon which this falls.

Control.

White wax scale on citrus trees can be controlled, states the N.S.W. "Agricultural Gazette," with a soda spray made as follows:—

(1) One and a half lb. fresh washing soda dissolved in 4 gallons of water (15 lb. to 40 gals.); or, gals. of water

(2) Nine ozs. soda ash dissolved in 4 (5½ lb. to 40 gals.);

It is best to dissolve the soda first in a small quantity of hot water and add it to the remainder of the water.

The spray should be applied in March, preferably late in that month. Growers are reminded that if the spray is applied too early a re-infestation of the trees is likely to occur, as the young emerge irregularly from beneath the bodies of the female scales.

Combined Spray for Citrus Trees.

Where citrus trees are infested with red scale (*Chrysomphalus auranti*), as well as wax scales, a combined spray of miscible white oil and soda may be used, the strength being 15 lb. fresh washing soda or 5½ lb. soda ash, 1 gallon miscible white oil and 40 gallons water. In mixing the combined spray, the oil should be thoroughly emulsified, first with at least an equal quantity of water, and this then slowly added and stirred

into the remainder of the water, in which the soda has previously been dissolved.

Late applications of oil to citrus trees should be avoided, as they are likely to cause a reduction of the crop the following season. It is advisable to spray with the combined oil and soda spray (or oil alone) during the heat of the day in very hot, sunny weather. Considerable damage may result from spraying trees when they are in poor condition.

BROWN SCALE (*Saissetia oleæ*.)

THE BROWN SCALE, or brown olive scale as it is frequently called, occurs over the greater part of New South Wales. Although it is chiefly a pest of citrus, it also occurs on Passion vines, Olives, and on many different kinds of garden shrubs.

The adult female insects are brownish-black in color, nearly hemispherical in shape, and measure between three-sixteenths and one-eighth of an inch in diameter. The males, which are narrow, flat insects, are much smaller than the females, and are not readily observed.

Although the scales may be found on the fruit and leaves, the twigs of the host plants are preferred. The insects damage the tree by sucking up the sap, but injury also results from the sooty-mould, which accompanies the scale. This is caused by the excretion of the scales of large quantities of "honey-dew." This falls upon the leaves and fruit, and there forms a medium for the growth of

the sooty-mould fungus, thus causing the smutting of the leaves and fruit, and greatly depreciating its market value.

Control.

Fumigation with hydrocyanic acid gas or spraying with miscible oil, as recommended for the control of red scale, will control this pest. If spraying is undertaken, one gallon of oil should be diluted in 40 gallons of water. It is important that emulsification should be complete, otherwise the trees may be injured. Trees in a weak or drought-stricken condition are very susceptible to spray injury.

As the scale is most easily killed when the majority of the insects are in the young stage, a careful watch should be kept to determine when this condition occurs, so that the treatment of the trees may then be undertaken.

In some localities various species of small wasp parasites destroy sufficient of the scales to make artificial control measures unnecessary.

TASMANIA

Spraying for Pest Control.

AT the recent interstate conference on Apple and Pear grades for Australian markets, delegates were interested to hear of spraying programmes to keep free from black spot. Mr. C. O. Smith, of Woodbridge, was asked if he would be kind enough to make known the spray programme which he used.

Mr. Smith has furnished the information, as follows:

With regard to spraying, it is difficult to separate the treatment for spot from the programme in general, as there are so many pests to combat, and we have to modify our practice from time to time.

ORANGE BOUNTY

March 31 Last Day for Receiving Applications.

The Acting Minister of Commerce (Mr. Thorby) stated on February 25 that although the Commonwealth had provided assistance to the citrus industry in the form of a bounty on Oranges exported to the United Kingdom during the 1935 season, some exporters had not yet lodged applications with the department.

Provision was made in the Orange Bounty Act of 1935 for the payment of a bounty of 2/- per case on Oranges exported to the United Kingdom during the 1935 season. To qualify for payment of the bounty exporters were required to furnish evidence that the conditions specified by the Department of Commerce for the picking, handling, grading, packing and shipment of the fruit had been complied with. The Act provides that the bounty shall not be paid unless the claimant has lodged an application with the Secretary, Department of Commerce, on or before March 31, 1936. Exporters who have failed to lodge their applications should do so immediately.

When red spider eggs are plentiful, I begin with a winter oil spray—usually "Kleenup," with lime sulphur added in August.

At "green tip" stage I drench everything, Pears and Apples, all varieties, with 4-4-40 Bordeaux.

At the pink stage spotty varieties of Apples, such as Cleo., S.T.P., G. Smith, etc., usually get 2-2-40 Bordeaux instead of lime sulphur, while all colored varieties get 1-25 to 1-30 lime sulphur.

All spotty varieties of Pears get 2-2-40 Bordeaux in the pink; W. Coles and Josephines get lime sulphur.

If weather conditions are bad I would give spotty varieties of Pears another light spraying just before petals open.

At calyx time I use arsenate of lead in conjunction with either lime sulphur or atomised sulphur. Later I use atomised sulphur to keep mildew in check, either with or without arsenate of lead.

Codlin moth is not very troublesome here, and a calyx spray and one in December keeps it under to a satisfactory degree.

Red spider is troublesome, and sometimes requires special summer treatment, usually flour paste scalded.

In any ordinary season the above programme ensures a clean crop in this locality, which is coastal.

AUSTRALIAN FRUIT EXPORT.

The exports of Apples, Pears and Plums from the Commonwealth during February were as follows (in cases):—Tasmania (to 29th), Apples 181,926, Pears 2,995; Victoria (29th), Apples 62,907, Pears 58,047, Plums (half cases), 5,965; Queensland (to 22nd), Apples 10,181, Pears 47; N.S.W. (to 22nd), Apples 31,055, Pears 6,517; South Australia (approx.), 70,000 cases of Apples and Pears; W.A. figures not available as we go to press.

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Healthy and Fruitful*

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(INCORPORATED IN AUSTRALIA)

Cold Storage In Australasia

APPLES IN COLD STORE.

The science of cold storage of fruits was recently dealt with in a lecture by Dr. W. J. Young, Associate Professor of Bio-chemistry, Melbourne University.

Fruit, Dr. Young stated, lived just like a human being. An Apple had its birth on a tree, went through the period of youth to ripened maturity, and then to the stage of old age and decay. The aim of storage research was to delay the approach of old age.

Research showed that Apples breathed like human beings, taking in oxygen and exhaling carbon-dioxide.

When an Apple was plucked its respiration accelerated enormously, and maturity was speedily reached, with swift decline into senility. By keeping an Apple at a low temperature, this sudden acceleration was very much retarded.

At 71 deg. F., for instance, an Apple reached its maximum respiration in one week as compared with 26 weeks at 37 degrees. That was why Apples, and other fruit were stored and transported at low temperatures—to retard the progress of maturity until they reached the consumer.

A big problem with Apple shipments had been the effects of brown heart through the accumulation of the carbon-dioxide. Large quantities of this gas actually suffocated the fruit as it would suffocate human beings.

But it was also found that small proportions of the gas helped to delay acceleration of maximum respiration, and, therefore prolonged the life of the fruit. This had given rise to the recent interest in gas storage, but this system had many difficulties, as each variety of Apple needed different proportions of carbon-dioxide and oxygen, the provision of which had not yet been commercially possible.

FRUIT PRESERVATION.

Effects of Quick Freezing.

In a lecture recently delivered by Mr. T. N. Morris, at the Chelsea Polytechnic, under the auspices of the Low Temperature Research Station, the lecturer made the following remarks about freezing.

The death of plant tissue occurs mainly through the disorganisation and crushing caused by the formation of ice inside the protoplasm of the cells, and the work of Chambers and Hale has shown that unless this occurs the cell will recover. Plant or animal tissue killed by freezing or by crushing is highly unstable, and at ordinary temperatures quickly undergoes chemical changes, due to the action of enzymes and oxidase systems and to direct chemical oxidation. It is also an excellent medium for the growth of moulds, yeasts and bacteria. Chemical changes proceed slowly even at freezing temperatures, and, generally speaking, the lower the temperature of storage the better the results, e.g., better results are obtained by storage at 20 deg. C. than at -10 deg. C. (14 deg. F.), which must be regarded as the upper limit for successful storage of fruits in the raw state. Chemical changes can be either wholly or partially prevented by freezing under syrup, heating before freezing, freezing in vacuo or in an inert gas. The growth of micro-organisms ceases at about -6 deg. to -7 deg. C., and is very slow at -5 deg. C., but freezing does not

necessarily kill all micro-organisms, hence frozen material should be consumed promptly.

Quick freezing affects the size of the ice crystals, and is beneficial in improving the appearance of Strawberries. It is doubtful whether quick freezing should be advocated unless it could be applied without materially adding to the cost. It is necessary, however, to freeze quickly enough to prevent fermentation and autolytic change from occurring before the temperature is low enough to arrest them. For this reason, measures like pre-cooling the syrup, reducing the size of containers, and initial sharp freezing and subsequent removal to a higher temperature are advocated.

WIND-DRIVEN FAN CIRCULATES AIR IN REFRIGERATOR CARS.

A simple, inexpensive, wind-driven fan to circulate the air within railway refrigerator cars promises to cut losses of fresh fruit and vegetables by maintaining more uniform temperatures in the cars both in summer and winter, according to a bulletin issued recently by the U.S. Department of Agriculture, reports the "New York Packer." The device, developed by the Department, has been granted a public service patent. Department officials believe it will be of value to producers, shippers, railroads and consumers.

The fans, two to a car, are driven by small "windmills" on the roof and will operate in a wind with velocity of as little as four or five miles an hour. There is no reason why the fans cannot be used on storage houses, says E. A. Gorman, jr., of the U.S. Bureau of Plant Industry, who invented the device.

"When the heating or cooling of refrigerator cars to the proper temperatures depends upon the natural circulation of air alone," the bulletin continues, "the variation in temperatures is too great. When temperatures at the top of the car are at the right level, they are too low at the bottom of the car. The Department's air circulating device forces air at the top of the car through an air duct to each end of the car, where it passes over ice in the warm months and over heaters in the winter.

"The fans were developed originally to provide more even temperatures in cars carrying fruit from the west coast to the east during the winter, when cars must be heated.



Jonathan Apples in G. W. Brown's orchard, Merricks North, Vic.
Note *Pinus insignis* breakwinds.

"ORIENT" APPLE EXPORT PRIZES.

Entries Close on April 18.

The prize schedule for the Melbourne Royal Agric. Show (September 17-26, 1936) gives particulars of the Export Apple Competition which has been included again this year.

A handsome silver cup presented by the Orient Steamship Co., and cash prizes totalling £18 are offered in the class which should prove of great educational value to fruitgrowers by reason of the fact that half of each exhibit is judged in Melbourne, and the other half in London.

Each exhibit will consist of four cases of Apples (two each of two separate varieties) and half, i.e., one case of each variety, must be lodged at the Government Cool Stores, Melbourne, on or before April 18, from

"Maintaining fruits and vegetables at the right temperatures during shipment in the winter months has become as great a problem as during the summer, according to Dward F. Fisher, who is in charge of fruit and vegetable handling, transportation, and storage investigations in the Bureau."

which they will be despatched to London and judged on arrival. The remaining half of the exhibit must be forwarded to the Show Grounds prior to September 17, where they will be judged by a local judge. The exhibitor gaining the greatest number of points in both judgings will be declared the winner.

Entries must be made by letter and close with Mr. L. Monod, Secretary R.A.S., Temple Court, Melbourne, on Saturday, April 18, the day on which the first half of the exhibit is due at the cool stores. Those desiring to enter can obtain full details from Mr. Monod.

SCHOLARSHIPS FOR YOUNG FARMERS.

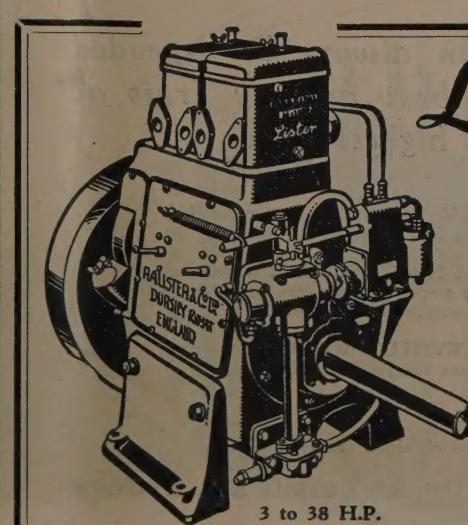
An announcement was recently made by the Director of Education (Mr. J. F. McRae), that the Council for Agricultural Education had decided to award free scholarships from the beginning of 1937 to members of Young Farmers' Clubs, tenable at Dookie and Longerenong Colleges.

The Council was also considering proposals for a vacation school for Young Farmers during August and the young farmers would be selected on the effectiveness of their work as club members.

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An Empire Fruit Policy

IN JUNE OR JULY of this year, an Empire Fruit Conference will assemble in London, when the Ottawa agreements will be reviewed in preparation for the Imperial Conference which meets a year later.

The Australian Apple and Pear Export Council has selected its delegate (Mr. G. W. Brown). It should be remembered, however, that the Conference proposes to deal with all fruits—fresh, canned and dried. The foundations are being laid for an Empire Fruit Association to deal with all matters of policy affecting the welfare of all sections of the fruit industry.

Already the Apple and Pear section is in process of creating an Empire body to deal with the wider aspects of the marketing of these fruits. An Empire Fruit Council, however, could consist of autonomous bodies representing other sections of the fruit industry. This would be by no means a super-body to decide on matters affecting particular sections. For instance the Australian Apple and Pear Export Council would decide its own policy: equally so the canned and dried fruits, also citrus, etc., would decide their own policies. Yet by having an Empire Fruit Council, the organisation and finance would be there for implementing the decisions of the constituent autonomous sections.

Apple and Pear growers are seeking an increase of the British duty agreed to at Ottawa (4/6 per cwt.) to 7/- per cwt. because the benefits of the preference at 4/6 have been vitiated by the devaluation of the dollar and freight subsidies. To secure this increase of duty the active co-operation of the British growers is needed. The alternative is a closed period in United Kingdom for Empire fruits on a defined programme.

At the London Fruit Conference in 1934 a programme was laid down for the equitable supply of Apples to the British markets by British growers and the overseas Dominions. This programme needs to be reviewed in the light of experience to be sure that it can be fully implemented. Questions of packages, grading, varieties, etc., will be considered.

There is another aspect—the supplying of Apples to Continental markets. The difficulties of dealing with certain Continental countries are well known. It is thought that if a joint Empire policy could be formulated the Continental markets could be developed from an Empire standpoint far better than by individual Empire countries operating in ignorance of what each other is doing.

This is the policy which is recommended by the Federal Government in connection with other Australian primary industries. In fact, this is one of the major objectives of the visit of the Minister of Commerce, Dr. Earle Page, and the Secretary of the Commerce Department, Mr. J. F. Murphy, who are now on their way to London.

Canned fruit producers are seeking an alteration of the present ad valorem system of preference for Empire canned fruits entering the United Kingdom. The present duty was agreed to at the Ottawa Conference. Here again, the dollar fluctuations have a great bearing, and the fact is of course apparent that when prices are unfortunately low the ad valorem duty is low too, thus affording no protection at all. Canned fruit producers are earnestly seeking that the duty be arranged on a straight out per case or per dozen basis.

The advertising of Australian products in the United Kingdom is being efficiently attended to by Mr. Hyland and his staff under the auspices of the Australian Overseas Trade Publicity Committee. A continuance of the present programme is desired, but it may be that with regard to Apples there could be co-ordination with Empire producers for effective continuity. Aspects of this have already been discussed.

The broad fact is that these national and international factors are looming larger than ever, and it is indeed fortunate that in the several sections of the fruit industry the wider vision is appreciated. Producers on their own orchards, groves and vineyards, would do well to ponder over these matters and to make and keep effective contact through their local, State and Australian-wide organisations.

FORESTRY DEVELOPMENT.

The Prime Minister has announced that the Government has decided to make £160,000 available for the next financial year and £80,000 for 1937-38. The Forestry programme initiated with Commonwealth assistance has so far provided employment for an additional 5,000 men. A national asset is being built up.

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Citrus News and Notes

Californian Citrus Industry

Organisation is the Keynote

Address delivered by Mr. F. H. Metters, President of the Federal Citrus Council of Australia, following his recent visit to U.S.A., at the 15th Annual Conference of the Victorian Central Citrus Association.

"Combining business with pleasure, I left for America in October last, intending to visit California, Arizona, Texas and Florida, as the principal citrus-growing States. Upon arrival in Los Angeles, however, I decided to concentrate upon California, as their conditions more nearly approximate those of Australia.

Conference Methods.

"It was my privilege, while in Los Angeles, to attend the annual conference of the Californian Fruit Growers' Exchange, and I was impressed with the efficiency displayed in the way they ran the meetings. Every delegate seemed to have a thorough knowledge of the business under consideration, and was prepared to fulfil his local association's wishes. I noticed that the conference was considering just the same kind of problems that we have, and they tackled them seriously and with little postponement for further advice.

"The Exchange represents 75 per cent. of all citrus producers in the State. There are other growers' organisations in operation but the Exchange is by far the largest. It is co-operative and is really producer-controlled, and it gives efficient service.

Orchards Large and Costly.

"Many Californian orchards extend upwards of 1,000 acres, and a Grapefruit grower will scarcely consider less than 100 acres for an orchard. Most of the largest groves are owned by companies, but there are some quite large orchards which are run by individual growers.

In one district which looked only suitable for sheep grazing, being covered with granite boulders, the land was said to cost £100 per acre and a further £200 per acre to clear ready for planting. Yet, with all this expense, it produced wonderfully, and was estimated to return over 10 per cent. profit per annum.

"In the dry hot areas, breakwinds of Australian Eucalyptus trees are seen, and I noticed this variety of imported trees in many parts of the State.

Experimental Stations.

"One experimental station which I visited was at Riverside, and is operated by the University of California in conjunction with the Department of Agriculture. Here, twenty-seven years ago, a citrus experimental station was commenced, and no experiments were conducted until the trees were ten years old. They were merely pruned and watered and otherwise looked after. Since then, however, all sorts of tests and experiments have been undertaken, especially in fertilisation, pruning and management. There is a definite programme of propagation of their own stocks on the station, and improvements in citrus culture are thereby being continually announced. Students from all

over the world are studying Californian methods, Japan and Palestine having several representatives, but Australians being, unfortunately, absent.

Methods and Quality.

"Quite calmly, I was led to believe that Californian Oranges were no better than those which South Australia produces. The rainfall is practically similar to that in the River districts of Victoria and South Australia. They lack natural irrigation in most parts of the State and rely on wells for water.

"In California an orchardist is generally a grower. He sells his crop to buyers, who pick the fruit and take it away. The fruit is picked on the green side and is treated with ethylene gas for artificial coloring. The grading is strict and maturity requirements are complied with before distribution.

"In fruit controlled by the Exchange or other growers' organisations, the quality is strictly enforced and registered brands are consistently of splendid quality, which is one reason why Californian production and distribution are so successful.

"The best fruit is shipped inland to the large markets in the Eastern States and reject fruit is mostly consumed in California. Fruit drinks, juices, and products of all sorts absorb vast quantities of this surplus.

It is significant that the better growers are able to produce 90 per cent. of unmarked fruit. This is a wonderful tribute to efficient orcharding, and although there are some careless or inefficient growers, in general it can be said that diseases and pests are well controlled.

"Grapefruit in California has not been a major industry in the past. More Grapefruit is produced in Arizona and Texas and other seemingly arid areas which appear to favor this variety, but lately California has begun to include more Grapefruit plantings, and now tens of thousands of acres have yet to come into bearing.

"Research work is continually going on, not only on experimental stations, but everywhere. The control of thrips and other disabilities are receiving constant attention, and California is benefiting by the whole-hearted co-operation of all growers and citrus-distributing organisations.

Advertising.

The Exchange, realising their responsibility in placing so great a volume of production, budgets for large amounts each year for advertising purposes. Last year, in spite of a tremendous crop, they were able to place the whole of their supplies and spent about a million dollars in advertising. "Sunkist" and "Blue Goose" are probably the most popular brands, but so strict is the Ex-

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change upon quality fruit that practically every registered brand of Californian citrus fruits receives ready welcome, both at home and abroad.

"Last year the crop was nearly 30 per cent. above the previous record, yet growers received more per case than any year in the depression period, owing to efficient distribution and advertising—plus quality."

New "Sunkist" Building

A Grower-owned Monument

QUOTED as the largest fruit distributing organisation in the world, the California Fruit Growers' Exchange, known the world over for its "Sunkist" brand, has just moved into its ornate new building in Los Angeles.

Although erected for purely utilitarian purposes to house the executive offices and the various departments of its numerous interests, the building is architecturally a thing of beauty and was designed with a view to economy in both floor space and erection. Seven storeys high, setback style, natural lighting and other modern features, are features that have been put into the building.

52,000 Square Feet of Floors.

Exclusive of 16,000 square feet in the 55-car garage, which occupies a large percentage of the ground floor, there is provision for 52,000 square feet of floor space for the operations

of the Exchange. The foundations are said to be earthquake proof, and the building is the first to obtain a permit under the 'quake requirements of the city. It is built upon 36 feet deep caskets with bell-bottoms in the western portion, supplying a firm foundation and reinforced concrete is used throughout.

The land cost £23,000, and the building £73,000. It is expected to meet the requirements of the Exchange for a long time to come, and — the most important point—it is grower-owned. The saving in rent that would need to be paid for less suitable premises will pay for the building within 25 years.

Atmosphere.

In true American style, the furnishings are elaborate, and an atmosphere is created by the painting of murals, 11 ft. x 9 ft., illustrative of the introduction of Oranges into California



The new "Sunkist" building in Los Angeles, U.S.A.

from Spain and the development of the industry to the present day.

An assembly hall to seat 500 persons will provide comfortable accommodation at the weekly meeting of the Exchange. The committee rooms and offices are air conditioned by two compressors, making the air about 15 degrees below that outside.

Amongst many well-thought-out features introduced, those most interesting to Australians might be that the whole of the fifth floor is given over to the advertising department, upon which the Exchange depends so largely for its success in marketing its fruit. A specially-equipped kitchen provides facilities for research in preparing citrus foods for the housewife and for testing recipes for all occasions. Adjoining the kitchen is a laboratory, and these two important departments co-operate in studies of the nutritional content of many food commodities.

Growers' supplies are housed in one whole floor, and a buying service to member-growers is featured. A field service department and pest control

bureau are busy centres in the scheme for the centralised housing of all sections of the activities of the Exchange.

Only 40 Years Old.

The Exchange is a co-operative movement that was conceived by growers only 40 years ago, and during its proved service to the citrus industry of California, has demonstrated that by honest co-operation by all sections of the citrus industry, a worthwhile improvement can be brought about by which grower and merchant alike benefit.

As representing its place in the commercial world, it is recalled that last year the Exchange distributed over 100,000 carloads of Californian citrus fruits, returning 100 million dollars to the industry.

It is a remarkable fact that neither the president nor any member of the board of directors of the Exchange is paid for his services as a director, yet some of them give much time to the problems and policies of the Exchange. Naturally, there is a large staff of expert business men employ-

ed in the activities of the Exchange, but as a co-operative body it is a responsibility of the growers.

The Exchange at Work.

Approximately 85 per cent. of citrus fruits grown in California is handled by Associations represented in the Exchange. Over 200 of such bodies make up this vast distributing organisation. Only growers producing citrus fruits may belong to an association.

Financial credit is established for its members through a small levy per case by each branch association. By this means also co-operative packing plants are established where necessary and the financial arrangements are such that the Exchange and its subsidiaries are practically self-contained.

Standard grades and registered Exchange trademarks make for uniformly good quality, and a consequent heavy demand for "Sunkist" fruits. Over many years the consistent quality of these products has built up a popular demand, not only in America, but abroad.

Group buying, at wholesale rates, is only one service which the Exchange provides by which savings to growers are common. Production, distribution and publicity go hand in hand and returns to growers are higher than they would be under individual effort. The selling and distribution of citrus fruits in U.S.A. reaches every corner of the country, and the new headquarters building, fitted with teletype, telegraph service to every State, receives and collates market conditions, announces shipments and prices and keeps each department in constant contact with others in a comprehensive network of the highly-developed marketing system perfected by the Exchange.

So the new Sunkist headquarters building will serve to cement the relationship between the grower and the men who serve him. It is also an outward evidence of the importance and stability of the citrus industry in California, and the part which it plays in the prosperity of the State.

Maturity Standard for Grapefruit

(Address by Mr. J. L. Provan, B.Agr.Sc., Citrus Research Officer, Victorian Department of Agriculture, at the Annual Citrus Conference, Victoria, February, 1936.)

TO INCREASE CONSUMPTION, Grapefruit must be obtainable by the public in a palatable form. Immature fruit will tend to harm the growing popularity of this fruit. During the past year we have been studying samples obtained from Merbein and Swan Hill. These districts were favored because they represent the largest growing districts, and we had to have some selected district or districts upon which to concentrate in our experiments.

Acidity.

Merbein. In this district, acidity varied between 28 c.c. on May 4 to 26 c.c. at the end of August. During August a downward trend commences. The above variation is very small, in such a long period, and shows that acidity alone in Grapefruit during the past season cannot be taken as of outstanding importance in maturity studies.

Swan Hill. Here the acidity dropped from 34 c.c. on May 4 down to about 27 c.c. on November 11. While figures at each successive two weeks varied slightly, there was a downward trend, which was maintained more or less uniformly for this period, but it should be noted that at no time did acidity from the Swan Hill district reach a figure which would be comparable with acidity of Merbein fruit for the same period. In fact, it was not until October 14 that acidity from Swan Hill reached even the maximum acidity of fruit from the Merbein district.

Soils a Factor.

Comparing these tests with other good, well-known fruits, degrees of Brix (mostly sugars) from heavier soils showed higher results. Lighter soils generally produce fruit giving a lower sugar content. Fruit from our heavier soils was higher in sugars and compared favorably with similar American fruits.

While we have no experimental evidence to confirm the statement, our observations show that hardier and less vegetative stocks, particularly from heavier soils, tend to produce

higher quality fruit, this quality being reflected particularly in higher sugar content. The Rough Lemon stock, which has been so largely used for citrus production in Victoria, is particularly vigorous under our conditions, and quality of fruit is decreased owing to the very vigorous vegetative growth. This is especially noticeable in trees up to 10 to 12 years old.

Further Studies.

We are not altogether satisfied with the results obtained last year. They are valuable and necessary in order to ascertain certain contributory factors, but next year we hope to extend our studies into the effect of cool storage on maturity and to arrive at facts that will be of great value to growers.

Observation of the behaviour of Grapefruit in cool storage might enable a maturity period to be determined. It is interesting to note, in the case of Pears and Plums, that cool storage investigations have revealed valuable maturity data. The department intends to continue its investigations, and Mr. G. Tindale will concentrate largely upon the cool storage end.

Oranges.

Mr. Provan also stated that the existing maturity standard for Oranges (22 c.c.) which was decided upon originally is generally accepted as a reasonable standard, and subsequent investigations by cool storage workers have confirmed this figure.

The tolerance factor of 3 c.c. at present being allowed by the department is necessary and desirable to eliminate the error due to sampling. This error for a sample of eight Oranges is in the region of 2.4 c.c. of soda.

Sambo was up for stealing chickens, and the judge was stern.

Judge Remember that you're on your oath. Did you steal these chickens?

Sambo: No, sah. Ah doan't steal dem chickens.

After he was acquitted, Sambo said to his mate: "Say, boy, if he'd said ducks, I shure was a gonner."

Autumn Budding of Fruit Trees

Citrus and Deciduous Fruits.

IF SUITABLE STOCKS are available and scions are kept dormant from the previous season's growth, budding of deciduous fruit trees can be carried out as soon as the sap is running freely in the spring, but because of the difficulty of holding such scions spring budding is not very much practised, nurserymen and orchardists preferring to wait until the buds of the current season's growth are sufficiently developed to use.

With Apricots and some varieties of Peaches and of Japanese Plums, suitable buds are available by December, and provided the sap of the stock is running freely budding can be carried out at that time. However, when inserted at this time the buds will sometimes make a slight growth, even if the stock is not topped back, and these growths are mostly spindly and weak, and are generally not desirable, though with the Peach and Apricot, which are liable to gum about the cuts and smother the inserted buds, early summer budding and moderate topping of the stock to encourage a shoot from the bud may be an advantage.

The most popular time for budding is from the latter part of January to early March. Buds inserted during this period are termed autumn buds, and are allowed to remain dormant till the following spring.

Citrus trees can be budded in the spring as soon as the bark will lift freely, but at this season suitable budding wood is scarce, and one loses much time in searching for it. Summer budding of citrus has the same drawback as that mentioned with respect to deciduous fruit trees. Thus autumn budding (February and March) is the most popular period for budding citrus trees. Young mature, round wood, if possible free from thorns, should be chosen for cutting citrus buds; angular wood should be avoided.

It is now widely accepted that citrus wood for propagation should only be cut from limbs that crop consistently and bear a good type of fruit.

Though deciduous fruits are not so liable to bud sport, care should, nevertheless, be taken to obtain scions only from the healthiest and best fruiting trees.

Scions of about $\frac{1}{4}$ inch diameter are the most suitable from which to cut buds. The buds near the top of the shoots are mostly immature, and should be discarded, and so also should any weak buds near the base of the shoot. As soon as the bud scions are cut from the parent tree, the leaves should be cut off, leaving a small piece of the leaf stalk only, and the scions should be at once wrapped and kept in moist packing to prevent their wilting.

Though bud scions can be kept some days in moist packing, the sooner they are used the better. Budding should not be carried out during rain, as it is impossible to prevent water getting into the cuts during the operation. The buds are best inserted in nursery stock at about ground level, and to facilitate the operation any side shoots and leaves up to 3 or 4 inches from the ground should be previously removed from the stocks.

The sap of the stock must be flowing strongly, so that the bark lifts freely from the cambium layer. This is most important, as if the bark does not lift freely little strands will be left on the cambium below, and many failures will occur. If the flow of sap has been checked by dry weather a thorough watering of the stock a few days before commencing to bud will start the sap flowing freely again.

Autumn buds are started into growth the following spring by topping back the stock to within three or four inches of the inserted bud at the end of the winter. When the shoot from the inserted bud is 2 or 3 inches long, it can be supported by tying it to the long stub left of the stock. Shoots starting from the natural buds on the stub above and below the inserted buds must be suppressed. The stubs close to the inserted bud are removed the following winter.

The budding of pome and stone fruit trees is the subject of a leaflet issued by the N.S.W. Department of Agriculture.—"Agricultural Gazette."

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Victorian Central Citrus Association

Report of Annual Conference

THE 15TH ANNUAL CONFERENCE of the above Association was held in Melbourne on February 4-5, and was notable for the many matters of general interest to citrus growers, which were included in the agenda. The President, Capt. D. B. Halhed, occupied the chair, and the following delegates reported:

Delegates: Messrs. S. P. Taylor (Curlwaa), J. A. Rickard (Merbein), H. Wormwell (Mildura), G. Beith and A. E. Cameron (Redcliffs), C. V. Rees (Lake Boga), D. J. Walters (Murrabit), P. Cobbett (Bamawm), R. J. Watson (Perricoota), N. W. Fairless (Shepparton), F. Rossiter (Ngawae), A. H. Smith (Wangaratta), J. Logan (Nanneela), G. Cotton (Cobram), P. R. Hollick (Irymple). Other representatives were: J. M. Ward, Supt. Horticulture, Victorian Department of Horticulture; J. L. Provan, Research Officer, Department of Agriculture; F. H. Metters, Pres. Federal Citrus Council of Australia; Brig.-Gen. J. Heane, Pres. N.S.W. Fruitgrowers' Federation; J. A. Parkes, Consultant of the Victorian Central Citrus Association; G. E. Kitchin-Kerr, Market Manager of the Association; A. W. Schwennesen, General Manager of the Association.

Chairman's Remarks.

In welcoming the delegates, Capt. Halhed briefly reviewed the operations of the Association during the past year. A most pleasing feature was the improvement of prices as compared with 1934. The market report shows that on an average the prices received were 9d. per case above last year, and 1/9 per case over those of 1933.

The position of the Association had been well maintained in the metropolitan market in spite of the net arrivals being approximately 8 per cent. lower than last year. Association agents had handled 1,000 cases more than during 1934.

Factory Lemons: The fixation of prices for factory Lemons had proved satisfactory to growers, and the price of 27 per ton, while not high, was a decided improvement over the preceding year.

Marketing Legislation: would be considered, and he appealed to delegates to give the question serious consideration and arrive at a conclusion that would be in the best interests of the industry.

Research: The action of the Department of Agriculture in instituting research work was gratifying. Up to date this has covered the manufacturing of citrus trees and fumigation, which should be of benefit to all growers. In addition, the Department was continuing its investigations into maturity standards, and are determining many important facts regarding this subject.

New Zealand: The Association is hopeful that the respective Governments will reopen negotiations with New Zealand regarding fuller export of citrus fruits from the Commonwealth.

Marketing Act 1935.

Much discussion was allowed concerning the application of the Marketing of Primary Products Act to

citrus fruits. Motions and amendments were proposed and considered until a collective motion by Messrs. Cameron, Walters and Logan, was submitted and carried, reading: "That this conference of Victorian citrus growers affirms its belief in the principle of the controlled marketing of primary products by suitable legislation and considers that the Marketing of Primary Products Act 1935 provides a suitable method of control of marketing."

"It believes, however, that it would be ineffective to take a poll of growers on the question until discussion with other States has given an indication of their intentions with regard to control. The conference refers the question to the Federal citrus Council."

"That the Council be asked to investigate what benefits are likely to be received from compulsory legislation and to report its conclusions to the industry."

Maturity Standards.

This question was introduced by an address by Mr. J. L. Provan, Horticultural Research Officer, Department of Agriculture, whose remarks are reviewed elsewhere in this issue. On the motion of Mr. R. J. Watson, it was agreed to request the Department to continue its investigations.

Inspection and Road Transport.

The subject of the supervision of artificially colored fruit, particularly in connection with road transport, was introduced by Mr. Wormwell (Mildura), and freely discussed. It was submitted that there were better facilities for inspection of interstate fruit than for arrivals from Victorian districts.

Mr. Ward said the Department had caught many men delivering infected fruit to shops, selling fruit in bags and in a diseased state. Prosecutions of shops and those marketing fruit infected with scale took place. If the offenders were not detected on the road they were traced sooner or later. In one instance a grower, after being warned, had hundreds of cases of infected fruit destroyed. He was now sending his fruit to a town outside Victoria. The washing of the fruit not only made reinfection probable, but allowed the trees to deteriorate by neglect. The cleaning-up should take place while the pest is on the trees. Mildura as a whole had taken the most efficient steps among Australian citrus growers to keep their trees free of disease. Road transport was proving a considerable worry owing to the difficulty of regular inspection.

He could assure growers that many difficulties in regard to inspection were being overcome and improved facilities are being introduced.

Pests and Diseases.

Mr. A. E. Cameron (Redcliffs) spoke about diseased and neglected trees and moved the following resolution, which was carried:

"This conference requests that the Government be urged to expedite the proposed amendment to the Vegetation, Vines and Diseases Act, to enable the Department of Agriculture

to have power to deal more efficiently with diseased fruit and trees."

Mr. J. M. Ward, Superintendent of Horticulture, stated that the Amending Bill is being prepared, and he hoped that it would be passed by Parliament during the next session. At present the Department has no power to destroy diseased or neglected trees.

Citrus Advisory Council.

The proposal to establish an Australian Citrus Advisory Council was explained by Mr. G. K. Kerr, Markets Manager for the Association, who stated that it has been thought that a Council should be constituted to assist in the export of Oranges. The main suggestion to date is that the cost of operating export control should be met by a nominal levy on all Oranges marketed, subsidised by the Commonwealth Government.

In the general discussion that followed it was submitted that it is doubtful if Victorian growers who do not export Oranges would subscribe to a levy. It was also pointed out that N.S.W. growers do not now favor contributing to such an arrangement, and suggested that the time was not ripe to consider it. South Australia, it is understood, advised such a council.

The chairman pointed out that since South Australia is the largest exporter of Oranges at the present time, and that although her exports did not pay last year, the support by other States, of this proposal, would prevent a large proportion of South Australia's surplus production from coming on to the market in other States, therefore they should support such a scheme.

The general manager of the Victorian Citrus Association (Mr. A. W. Schwennesen) stated that the matter would be considered at the next meeting of the Federal Citrus Council, but it is doubtful if anything could be done at present. Government would not provide the whole of the subsidy necessary to the operations of a control council. The matter was left in the hands of the executive.

The chairman assured the visiting Presidents of the N.S.W. and S.A. Citrus Associations that Victoria would support them in any movement that should be considered for the mutual benefit of growers in all States.

Citrus in California.

Recently returned from a visit to California, Mr. F. H. Metters, President of the Federal Citrus Council of Australia, was present and gave an address upon his study of the citrus industry in U.S.A. A report of his investigations appears elsewhere in this issue.

Market Report—April to December, 1935.

A full report of market conditions for the last half of 1935, was tabled by Mr. G. K. Kerr, and covered many points of interest to delegates, some of which are, briefly:

Quantities: Arrivals to the Melbourne citrus market were the lightest since 1929. N.S.W. supplies reduced by adverse seasonal conditions. S.A. supplies approximately to same as last year (121,500 cases). Victorian supplies lighter by from 8 to 10 per cent. Net arrivals were 677,000 bushels as against 740,000 bush. last year.

Prices: The average prices received by accredited agents of the Association were approximately 8d. per case higher than 1934, and 1/- over the prices for 1933. Comparative figures for wholesale realisations, and showing the proportion of each variety to the total volume of citrus fruits reads:

Variety.	Proportion	1935. Price per case.	1934. Price per case.
	%	case.	case.
Navels . . .	59.4	7/-	6/1
Mandarins . . .	4.5	6/4	5/11
Lemons . . .	7.4	7/-	4/10
Grapefruit . . .	4.8	7/6	7/9
Commons . . .	4.8	6/2	5/5
Valencias . . .	19.1	9/2	7/9

Telephone Service.

One matter not on the agenda was thought sufficiently important to be added. Calling attention to the difficulty and lost time experienced by orchard supervisors in country districts in covering their usually large districts, Mr. J. Logan (Nanneela) moved: "That this conference requests the Government to provide telephone facilities for all Orchard Supervisors as this would save mileage and give better supervision as well as allowing supervisors and growers to be more accessible to each other." This was supported by Mr. N. W. Fairless (Shepparton), and carried.

AUSTRALIAN CITRUS COUNCIL.

Gosford Growers Not Satisfied With Present Arrangements.

The Central Coast District Council of the Fruit Growers' Federation of N.S.W. met at Gosford on February 5, and gave consideration to an invitation received by telegram from Mr. F. Metters, president of the Federal Citrus Council, to be represented at the Interstate Citrus Conference in Melbourne.

The meeting decided to reply requesting Mr. Metters to convene an early meeting of the committee appointed to complete the constitution of the new Federal Advisory Council, as the Central Coast Council considered that the old body sitting in Melbourne on February 6 had no jurisdiction in matters that were under consideration by the first-mentioned committee.

Mr. A. S. Brown, who had been invited to be present, could not attend at such short notice.

Farm Produce Agents' Act.

Consideration was given to the proposed amendments to the Farm Produce Agents' Act. A committee, consisting of delegates from the packing houses at Wyong, Niagara Park, Gosford, and the Gosford Rural Bulk Loading Society, was appointed to review the proposed amending legislation.

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Horticultural Enquiries

Replies supplied by A. G. STRICKLAND, M.Sc.
Chief Horticultural Instructor, S. Aust.

Is Cultivating During the Flowering Period Injurious to the Setting of Grapes?

This question was asked by the Koonunga Branch of the Agricultural Bureau.

Reply—There is no definite evidence that cultivation during setting is injurious, although Perold, a South African authority, recommends that varieties subject to "coulure," i.e., bad setting, should not be cultivated for 2-3 weeks during flowering and setting.

He states that the soil will be kept warmer, and that berries will set better if the soil is not constantly kept loose. However important this may be, it is certain that there are other bigger influences concerned in "coulure," and should it be necessary for any reason to cultivate vines during setting, I do not consider that there is appreciable justification for deferring the operation.

Cabbage Moth.

Insect specimens submitted by the Clarendon Branch of the Agricultural Bureau were identified as the larvae of the Cabbage Moth, and the recognised method of control of this pest is to spray or dust with arsenate of lead preparations whilst plants are young.

Dusting with derris preparations—several of which are on the market—is also effective, and such treatment is to be preferred, especially in the later stages of plant development, owing to the fact that this insecticide is non-poisonous to humans.

Treatment of plants from very early stages is essential for control of this pest.

Fertilisers for Potatoes.

"Scott's Bottom" Agricultural Bureau asks: "What would be the most profitable manure for Potatoes? Tomato manure at the rate of 8 cwt. to the acre, or 8 cwt. bonedust, $\frac{1}{2}$

cwt. ammonia, and $\frac{1}{2}$ cwt. potash mixed per acre?"

Reply—In the absence of definite experimental evidence it is impossible to compare the two fertiliser dressings mentioned and, in fact, available information tends to suggest as best practice a dressing which differs from the two which have been quoted, i.e., 3 to 6 cwt. of superphosphate plus 1 cwt. of sulphate of ammonia per acre. Bonedust may be used as substitute for portion of the superphosphate if applied rather more heavily than superphosphate, but it should be noted that bone fertiliser is much slower acting than superphosphate. The latter fertiliser is able to fully benefit the crop in the season of application, but the beneficial effect of bonedust will be spread over several seasons.

So far there is little evidence that potassic fertilisers will increase yields, although there are indications that when used in the form of sulphate, quality of the Potatoes is improved. The issue is not clear cut, however, and as potash is an expensive fertiliser heavy dressings could not be freely recommended. An occasional dressing of $\frac{1}{2}$ cwt. to 1 cwt.

of sulphate of potash per acre should be sufficient to ensure ample potash for production of quality crops, and until further experiments have given results it must be said that the need for potash is not marked.

Method of Applying Fertilisers.

The quick-acting fertilisers—superphosphate, sulphate of ammonia, and sulphate of potash—are best applied in the furrow at planting time. If bonedust is used with the object of long-range improvement in soil fertility this fertiliser may be applied broadcast some considerable time before planting.

Form of Potash Fertiliser.—Sulphate of potash is preferable to muriate of potash; it has been stated that whereas sulphate improves quality muriate may have the reverse effect.

Availability of Bonedust.

Bonedust is a relatively insoluble and slow-acting fertiliser, and the total amount of plant food in any quantity applied to the soil only becomes gradually available over a long period. Although some small benefit might accrue in the season of application of bonedust, the main benefits must be looked for in future seasons. For quick results always use superphosphate as a source of phosphoric acid. —"S.Aust. Journal of Agric."

Cables—Monro, London

Codes—A.B.C. 5th Edition and Bentley's

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Dismal Desmond: Never?

Smiling Sam: Certainly not. In the day time I'm too busy, and at night time I'm too sleepy.

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— Keeps the Mixture in the barrel as even at the end as at the beginning of Spraying. —

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MID-MURRAY NOTES.

Currant Harvest only 50 per cent. of Normal — High Quality Sultanas and Absence of "Bunch Collapse" — Important Speeches at Renmark Co-operated Co.'s Social — Value of Co-operation.

(By Our Special Correspondent.)

RENMARK, February 19, 1936.

O WING to the very light crop of Currants this year, due to the disastrous rain experienced early in the year, most growers have already picked all the crop. As far as can be gathered at the present time, we might estimate the crop to be about 50 per cent. of normal over this area, although in some cases individual losses are heavier, and the late pruned vines suffered very little loss.

It is particularly unfortunate that the Currant growers should have sustained such a great loss owing to the fact that a splendid crop showed on the vines. On the other hand, Sultanas in general are showing a light crop, there being considerably less number of bunches than in a normal year. The rain, however, which proved so disastrous for the Currants, filled out the Sultana bunches to such an extent that there is every likelihood of a good quality dried article being produced, provided, of course, that we do not get any more rain.

One feature about the Sultanas this year, is the almost total absence of "bunch collapse," a condition often associated with this variety of Grape. It is not a complete collapse of the whole bunch, but a collapse of the lower portion of the bunch principally. Whereas the top portion of the bunch develops normally, the lower portion in this case is nothing more than an acrid fluid and skin.

There is a good deal of conjecture about the cause of this collapse. It is sometimes attributed to excessive dryness of the soil at a critical stage of the development of the Grape.

Early January is usually a time when we experience exceptionally hot weather, and owing to our roster system of irrigation, the land is often dry just when there is urgent need for supplying the vine with all the moisture it needs. This year, however, with 4 inches of rain at this period of growth, the Sultanas were not allowed to dry out, and we might consider this as strong evidence in favor of the theory that bunch collapse is attributed to soil dryness at the commencement of the sugaring process.

Another theory is that owing to an excessive number of rods being left on the vine, the vine is not capable of maturing all the fruit it produces, consequently, the lower portion of the bunch fails to mature. There will also be an appearance of bunch collapse when excessive soil water appears, and raises the water table to a dangerous height. However, the cause is still obscure and needs further investigation to definitely define the cause.

The annual social of shareholders belonging to the Renmark Fruit Growers' Co-operated, took place on Wednesday evening, February 15. Mr. H. D. Howie occupied the chair, and between 250 and 300 members and visitors being present.

Visitors from other co-operative societies on the River comprised: Berri — Messrs. A. Ingerson, A. P. Wishart, R. Curren, W. Stone; Waikerie — Mr. J. B. Murdoch; Kingston — Messrs. M. H. Verrell, J. L. Weatherall, W. Swansbury; Cadell — Messrs. K. S. Dunk and M. Gordon; Barmera — Messrs. E. Farmer, E. Sims, C. Till; Mr. W. E. Muspratt; from Queens-

land, who is an old resident of Renmark and saw the development of irrigation and co-operation since its inception, also attended.

Mr. J. J. Scouler, Secretary of the London Agency of the Commonwealth Export Control Board, also attended and gave an outline of the Board's activities on the United Kingdom market.

Mr. J. B. Murdoch, who proposed the toast of the "Dried Fruits Industry," said that when it was considered that 4,000 growers were directly engaged in the industry, and that some 40,000 people were directly dependent on this industry, it must be considered of some importance. Out of these four thousand growers who were dependent upon the industry for a livelihood, the greatest pillar which supported the whole structure, came from the co-operative movement, of which he was proud to be a staunch supporter.

The co-operative movement went hand in hand with the Australian Dried Fruits Association, and these bodies were directly responsible for the creation of the legislation which had conferred such a benefit to the industry. "Mr. Howie and myself," said the speaker, "owing to our connection with the Control Boards, could bear witness to the value of Mr. Scouler's services in London."

Mr. Scouler, in responding to the toast, said that in the seven years of his absence from Australia he had seen a great development in improved cultural operations on the River. Although we are improving the quality of fruit year by year, we must not think that our present pack needs no further improvement. Our competitors are always on the alert and we must give our customers nothing but the best, and strain every nerve to do so.

We were not yet up to the highest standard of our Californian and



Packing Pears for export. A section of S. J. Perry & Co.'s packing equipment at Cool Stores, Shepparton, Vic.

Photo, Basil Krone.

Smyrna competitors. Having been a grower myself, said the speaker, he was struck with the improvement in packing operations, especially the idea of passing the fruit over wide conveyer belts to enable girls to pick out any foreign matter, such as stalks, etc. "Regarding your cultural methods," continued Mr. Scouler, "it is quite obvious to me that in a peak year we should reach the 80,000 ton mark, so that any additional plantings of drying varieties of Grapes should be seriously discouraged."

Grub Problem Eliminated.

When Mr. Scouler went to London seven years ago, the greatest menace to the dried fruits industry was the grub infestation of dried fruit, but owing to the employment of scientists in combating this pest it does not now constitute a problem.

Warehousemen in England had to be educated to the need for co-operation in the fight, and fumigation and a general clean-up was necessary. Now, however, we can claim 100 per cent. clean fruit. Mr. Scouler paid a tribute to the work of Mr. J. W. Munrow, of the Royal Society of Chemists, in tackling the job in a comprehensive manner. He then emphasised the work done at the London end in keeping the fruit free from infestation, but it may interest readers to know that packers in Australia had to ensure the fruit arriving in a clean condition, and have developed

an insecticide known as Erinol Z3, which effectively kills all insect life and renders eggs infertile.

It has been a long fight, both at this end and in England, and the results achieved are a credit to the industry.

Having digressed slightly from our social, we will get back to the toast list. Mr. A. P. Wishart proposed the toast of the Renmark Fruit Growers' Co-operated, and spoke about the history of the co-operative movement on the River. He said it was not possible for the younger members to realise the stern fight that co-operation had to face in the early days of the industry, and although it was now so well and firmly established, we have had to weather many a severe storm and set back before the present well-established structure became an accomplished fact.

Mr. H. D. Howie (chairman of the Renmark Fruit Growers' Co-operated) responded, and said that co-operation stood for all that was best and soundest in primary industry. "Our company," he said, "had been in existence for over 40 years, and was now in an extremely sound financial position, simply because of the loyalty of its members. In this year, the currant position was made difficult because of the loss of crop and other circumstances, but, if we all stick together a better price will be realised

ARE YOU GRUBBING?

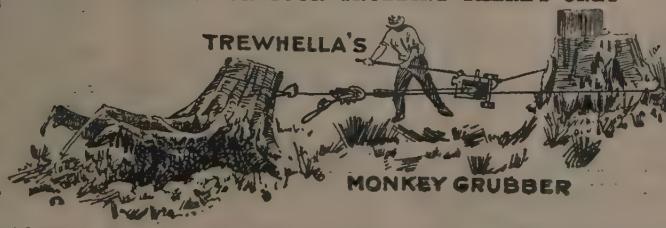
Previous experience had convinced me that to be really efficient a grubbing machine should have ample power and ropes that will meet the heavy demands required of them. I found that shovel and axe work is very costly either by itself or in conjunction with a machine. The machine that offered these features, with a host of others, was THE "MONKEY" GRUBBER.

It gave me the power of 260 pairs of hands in a simple and compact form; the lever is short, so that I am able to stand firm-footed and get the full stroke. There are two speeds in the machine, as well as an automatic release that allows me to let off a strain, or as the machine will work in any position, it comes in for all jobs that would require a chain block. It is taken to the job on a pair of wheels like a barn truck, and is rigged for work in a few minutes. The ropes are in lengths that I find easy to handle, and each one is fitted with hook and loop couplings, so simple and absolutely IT for effectiveness. The makers have included a sturdy snatch block with a novel method of securing to the ropes, and also a fine type of firm gripping rope shortener. The latter makes it very easy to accommodate the lengths of rope to the tree or stump being pulled, and is quickly released from the rope. The combination of so many time and labor saving features makes the "Monkey" Grubber a superior grubbing outfit.

REMEMBER FOR YOUR GRUBBING THERE'S ONLY

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Leading Stores and
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TREWHELLA BROS. Pty. Ltd. Trentham, Vic.

because of the lesser amount of fruit available for overseas market."

Mr. C. S. Ruston gave the toast of the visitors, and made special mention of our old friend, Mr. Muspratt, and the opportunity given to hear Mr. Scouler, who constituted an important visitor.

Mr. W. E. Muspratt responded on behalf of the visitors, and gave some interesting incidents of the company's early history. In 1895, he said, this company was first formed, after a trip to Mildura, by himself, Mr. F. W. Cutback and Mr. W. G. Cuttle. Mr. Cuttle was the first manager, and he congratulated the company on its present position and the progress it had made.

A social of this kind does a lot to cement the feeling of co-operation, and gives members an opportunity of fraternising and indulging in a little relaxation, and at the same time

gives the management a chance to outline the immediate harvest prospects. Throughout the evening musical items were given by Mr. Jack Irving's orchestra, and humorous items by various local talent. — "Nemo."

"FRUIT WORLD ANNUAL" APPRECIATED.

(The Editor.)

Sir,—I desire to acknowledge with thanks the receipt of the "Fruit World Annual," and to congratulate you upon the production of such a fine publication. The "Annual" contains a fund of useful information, and will be very handy for reference purposes. —(Signed) C. G. SAVAGE, Director of Fruit Culture, Sydney (7/2/36).

This equipment will save • TIME • MONEY • LABOUR on your ORCHARD!

TILLAGE work in the orchard can be a heavy drain on your energy if you slave at it with implements that have outlived their usefulness. With modern equipment ploughing and harrowing are done with greater speed—less effort—and the result is a tidier, more satisfactory job.



INTERNATIONAL B-7 Tractor Orchard Plough

The International B-7 tractor orchard mouldboard plough is so constructed that it can be worked close to trees without damaging overhanging branches. It can be adjusted for shallow ploughing so that it will not hurt the roots. The 2-furrow plough is convertible to 3-furrow plough, and 3-furrow plough to 2-furrow plough by adding or removing necessary fittings.

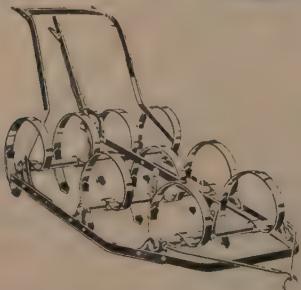
INTERNATIONAL Model V Tractor Disc Harrow

The International Model V tractor disc harrow is equipped with fourteen 18-inch discs, made of high quality heat-treated steel, so they retain a good cutting edge in all soils. Cultivating width, 8 ft. Spring swivel hitch enables the harrow to be coupled close to the tractor. This is an ideal implement for use with tractor.



INTERNATIONAL Spring-Tooth Harrow

The International 9-tooth spring-tooth harrow has a cultivating width of 2½ ft. and is equipped with 14-inch reversible points. Renewable steel runner prevents bottom from wearing. An ideal implement for deep cultivation and is equally suitable for farm use as for orchard work.



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South Australian Fruit Marketing Association

Local and Overseas Marketing — Fruit for Continent — Thrips League. Field Day — Pest and Disease Control.

The monthly meeting of the S.A.F.M.A. held at Adelaide on January 31, 1936. There were present: Messrs. H. J. Bishop (chairman), R. G. Hannaford, A. O. Petersen, J. B. Randell, A. R. Willsmore, P. R. B. Searcy, M. G. Basey, H. M. Wicks, M. Vickers, D. Norsworthy, R. S. McDougall, R. A. Cramond, S. M. James, E. S. Mason, H. J. Bishop, and the Secretary. Apologies from Messrs. R. O. Knappstein, F. F. Redden, A. G. Strickland.

Finance: Financial statement showing balance in bank, £868/8/6 was submitted by the Secretary and received. Accounts passed for payment as per list, £27/19/7.

Correspondence.

Telegram received from Australian Apple and Pear Export Association, advising that the N.Z. Export Control Board had agreed to Australian and N.Z. fruit allotments for U.K.

Minutes of conference with N.Z. and of A and P. executive meeting in Sydney were tabled.

Letter received from Victorian Fruit Marketing Association re interstate conference on grading. Messrs. J. B. Mills and G. W. Brown were asked to act as proxies.

Letter from Agricultural Bureau advising field day to be held at Blackwood orchard on February 7.

Letter from Harbors Board in reply to letter of November 30, advising that wharfage would be calculated on basis of 45 cases Apples to ton and 50 cases of Pears to ton.

Letter from Government Produce Department containing extract from report of Trade Commissioner, London, re issue of publication similar to those issued by other Apple exporting countries.

Resolved copy of letter be sent to Apple and Pear Export Council with a view to obtaining the co-operation of all States.

Thrips League: Letter from Secretary Thrips League, asking if the Association would donate £20 towards an amount of £300 required for completing the investigations in 1936 and

enclosing copy of letter from Sir David Rivett, Chief Executive Officer of Council for Scientific and Industrial Research setting out the reasons for the additional funds required. It was resolved that the sum of £20 be donated.

Freight Committee: Letter to Freight Committee from Mr. A. G. Strickland re February shipments of Apples was read by the President.

The President read a letter from the O.S.R.A. setting out the present shortage of required space for March. He stated that since the letter was written the Freight Sub-committee had interviewed Mr. Waddell, chairman, O.S.R.A., and a further 21,000 cases of space had been arranged for London on March 4, but there was a serious shortage in regard to Hamburg, Glasgow and Antwerp, he thought the O.S.R.A. were doing everything possible to obtain the necessary space, and hoped that the position would be improved shortly.

Mr. J. B. Randell mentioned that the S.A. Fruit Growers and Market Gardeners' Association hoped to arrange an interstate conference of fruitgrowers in Adelaide in early September, so that visitors could attend the Royal Agricultural Society Show.

It was agreed that this time would be too early for the Australian Apple and Pear Export Council Conference, as Apple and Pear forecasts could not be presented until about October 30.

Research Sub-committee: Mr. Wicks reported that the Research Sub-committee had decided to ask Mr. A. G. Strickland to address growers in August next, on the subject of "Control of Black Spot." It had also been decided to obtain information in regard to the position of growers lighting smoke smudges to drive out Rutherglen Bug, as it was reported that action had been threatened by a constable against a grower engaged in this work.

General discussion took place re moth pests and use of colloidal sulphur and other sprays.

ADVERTISING PAYS.

"Sunkist" organisation has spent over £5,000,000 in advertising in less than 20 years.

The bulk of the citrus fruits in California are handled by the California Fruitgrowers' Exchange, with headquarters at Los Angeles.

Here are some of the highlights of that organisation which is probably the largest and most efficient grower-co-operative in the world.

The California Fruitgrowers' Exchange controls over 75 per cent. of the State's citrus fruits.

There are over 13,000 grower members.

It owns its own timber mills, by-products plants and research laboratories.

In just under 20 years the Exchange has spent over £5,000,000 in advertising its Sunkist products.

In 1935 the advertising was over £500,000.

The gross sales are over £25,000,000 annually. The Exchange charges are 3d. per box and the advertising represents 4 per cent. of the gross turnover.

In 1935 the average gross returns were 11/6 per box.

APPLES for PROFIT

Select your Trees at Goodman's. Ample stocks specially prepared for 1936 Planting—all leading varieties for every purpose worked on Northern Spy Blight-proof stocks. Order now—Granny Smith, Delicious, Jonathan, Dunn's Favourite, Tasmania, Lalla, Willie Sharp, etc. Also all other varieties in Fruit Trees and Fruit Tree Stocks. Expert packing and prompt despatch any distance.

WRITE FOR CATALOGUE

C. J. GOODMAN
PICNIC POINT NURSERIES, Bairnsdale, Victoria

Victorian News and Notes

SELLING FRUIT BY NUMBER—

Apples, Pears and Peaches to be Sold by Count, Not by Weight

THE Victorian Fruit Marketing Association is in receipt of a letter from the Department of Agriculture to the effect that it is proposed to make it compulsory for the following fruits to be sold by number:—Apples, Bananas, citrus fruit, Passionfruit, Peaches and Pears.

The Melbourne and Metropolitan Retail Fruiterers' Association advised the Department that although they are in favor of selling by number instead of by weight, the difficulty of securing supplies sufficiently graded to enable this to be done has been such that the fruiterers who have tried the method of selling by number have found it impracticable to continue, and many reverted to selling by weight.

Continuing this letter the Department states: "This should not be so in the case of Apples, citrus fruits and Pears for the grower of such fruit is required to mark the number of the fruit contained in the package, and is familiar with this practice. In the case of Peaches and Passionfruit, however, the growers, under the regulations have the option of marking the number of the net weight of the fruit in the case, and if Peaches particularly are to be sold by number, it would appear that fairly accurate grading by growers would be necessary, and that the regulations would need to be altered to provide

for the marking of the number of the fruits in the case."

As Bananas, citrus fruits and Passionfruit are now sold in Victoria by number, it leaves only Apples, Pears and Peaches to be brought in under these new regulations. Growers of Apples and Pears have consistently for a long time past urged that the selling of these fruits by number instead of by weight should be made compulsory. Much time is lost and the fruit is unnecessarily handled when selling by weight instead of by number.

Most people would think it absurd to ask for a pound of Oranges, Lemons, Bananas or Passion fruit. It is equally absurd to continue the out-of-date practice of asking for Apples and Pears by weight.

Selling by number would facilitate trade and increase fruit consumption.

With regard to Peaches, the same remarks apply. Organisations of growers of Peaches, however, are being asked an expression of their views on this matter. It would appear that Peach growers in particular have much to gain by the selling by number instead of by weight, as the present unnecessary handling of these delicate fruits when selling by weight would be avoided.

Black Spot Experiments.

It was resolved that the Committee would meet Mr. S. Fish, Government Biologist, on February 12, at 2 p.m. at Mr. W. A. Thiele's orchard.

Farmers' Convention, Mildura.

Messrs. W. A. Thiele and L. Webb were appointed delegates to Farmers' Convention, Mildura, March 24-26.

Victoria Market.

The Secretary reported that tenders were let for more shed accommodation at Victoria Market, and the work would be started straight away.

The Secretary read a letter he had forwarded to Mr. Ward dealing with the Fruit and Vegetable Act, also the reply received. This was held over for a future meeting.

The action of Mr. Minns in dealing with the transfer of a certain stand in the Victoria Market was discussed after the Secretary had stated the facts. It was resolved that the action of Mr. Minns be endorsed.

Southern Fruitgrowers' Association

A MEETING of the executive committee of the Southern Fruitgrowers' Association was held at Box Hill on February 6, 1936.

There were present: Messrs. F. G. Beet (President), O. White, L. Webb, E. Noonan, and the Secretary (J. W. Aspinall). Apologies were received from Messrs. L. Pepperell, W. A. Thiele and R. M. Finlay.

Correspondence: From Geelong Districts, F.G.A., asking for information re joining up with the Southern growers. The Secretary reported having sent copy of the constitution; also last year's annual report and a letter thanking the Association for interest taken. Action endorsed.

A circular was received from the Stores Branch, Railway Offices, stating the price of waste carbide in bags supplied by the purchasers as being 10/- per ton, the Newport freight rate will be that applicable to manures. As there was such a difference in the price quoted for loose and bagged carbide, viz., 30/- per truck loose and £5/10/- bagged, supplied by the purchasers, the Secretary was asked to get further information.

From the East Burwood Co-operative Association stating the retailers' request that they be allowed to park their trucks in a single line in front of A, B, C, D, E sheds at Victoria Market, be approved subject to regulations of traffic.

General Business.

The Secretary reported that the meeting of the combined Associations to consider the request of the fruiterers would be held at the Temperance Hall, Russell-street, Tuesday, February 11, at 8 p.m. Delegates were notified. The President reported re meeting held on December 6 to discuss the better absorption of the coming Apple crop, also raising funds for an advertising campaign.



Packhams Pear tree at Mr. R. G. White's orchard, E. Doncaster, Vic. Heavy crop, clean fruit; sprayed with Cooper's Colloidal Sulphur.

HARCOURT YOUNG ORCHARDISTS' CLUB

The recently created Harcourt Young Orchardists' Club is functioning effectively. The President is Mr. W. Eagle, Jr., the Secretary, Mr. F. L. Bertuch, in a letter to the "Fruit World," gives the following information.

"We have a good membership and keen interest is being taken by the members. We have had four meetings, at which the subjects have been 'Control of Black Spot,' 'Codlin Moth and its Control,' and 'District Organisations.' At each meeting a short time is allowed to discuss the routine work at that time and also for any

general observations that have been noticed by members.

"We are endeavoring to establish a weather station and also a research station in the district.

"Information is being collected from overseas fruit-growing centres regarding the production and marketing methods, also crop forecast varieties grown and any information that may be useful.

"The aim of this club is to create more interest in the younger orchardists in their industry to try and educate ourselves into a higher standard of production and marketing methods so as to keep up with the demand that is pressed upon us in an ever-changing world."

VICTORIAN FARMERS' CONVENTION

The annual meeting of the Chamber of Agriculture will be held at Mildura from March 24 to 26, when delegates will attend from the various farming and fruit growing centres of Victoria.

Among the subjects included on the lengthy agenda are:

(1) Request from Orchardists' and Cool Stores' Association that the Commonwealth grant of £100,000 be treated as in lieu of freight reduction, for distribution in toto on a per case basis to growers of Apples and Pears who exported their fruit in 1935, and not subject to deduction of £20,000 as proposed by the Government (for compensation for re-working fruit trees and for research).

"That the Commonwealth Council of Agriculture should consult the Associations representing the fruit industry before deciding on matters of policy affecting the industry."

Quantong (18/2/36). — Mr. C. H. Jost writes: "Quantong is having the best year since our association was formed. All fruits, barring Plums, have been a very heavy crop, so much so, that the Victorian Railways have lengthened our platform, and have promised, possibly, an extension of our goods shed.

SHOWS TO COME

Diamond Creek—March 14.

Croydon—March 21.

Somerville—March 25.

Pakenham—March 28.

Ringwood—April 3 and 4.

Red Hill—April 8.

Guide: This castle has stood for 600 years. Not a stone has been touched, nothing altered, nothing replaced.

Visitor: Um, they must have the same landlord we have.

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New Zealand Notes and Comments

N.Z. and Australian Quotas — Crop Prospects — Probable Export 1½ Million Boxes — Quotas Suggested for Local Marketing — Export Marketing Enquiry — N.Z. Delegates Should Attend London Conference — Spraying for Pest and Disease Control.

(By Our Correspondent.)

ITEMS OF INTEREST regarding doings in the fruit industry are to hand from our N.Z. correspondent, dated 1/2/36, as follows:—

Quotas: Since our last letter details of the voluntary arrangements entered into between Australia and New Zealand have been published. There would appear to be very little difficulty in New Zealand keeping within the confines of the arrangement made for 1936. It is fortunate that the introduction of the quota system has taken place during the years of comparatively light crop, as it will have time to become a recognised institution before being tested

in a heavy crop year. At the same time a definite inducement has been given to both countries to develop markets outside the United Kingdom, and with the gradual improvement in business conditions the necessity of a quota may not exist when a heavy crop has once again to be handled.

Dr. Cunningham: The efforts of the New Zealand Government to retain the services of this outstanding research worker have been successful according to an announcement recently made by the Government. New laboratories are being built at Palmerston North and with improved facilities further beneficial results can be expected.

Crops: Black spot and russet have taken their toll in the main export districts. Weather conditions have been entirely against production of a clean crop. Until export picking really commences in earnest it will be hard to gauge to what extent the individual export crops are affected. The crop is distinctly lighter than 1934, the record crop year for New Zealand. There will not be the same loss through fruit being too small for export, and it must be remembered that a 10 per cent. size increase will account for a similar loss through spot and russet. The Dominion will probably ship to all markets approximately 1½ million boxes.

Local Consumption: With a small population the internal consuming power is limited and to this extent New Zealand can be compared to Tasmania with the exception that N.Z. has no outlet such as exists for Tasmania on the Mainland. In a season of heavy supply fruit sold locally in the height of the season hardly returns marketing costs, it is the excessive quantity of low grade fruit which is responsible — a quota for local consumption would probably achieve more than an export quota,

but despite all efforts over a number of years, low-grade fruit remains the "bug-bear" of N.Z. markets. The recent change in Government may be the instruments to effect a change—it is undoubtedly needed.

Export Marketing: On January 24 the enquiry by the Commission of Agriculture into export fruit marketing closed. The industry is awaiting with interest the decision of the Commission. In an effort to find a solution the Commission brought both sides together at the close of the evidence, but without result. Throughout the proceedings it became noticeable that any possibility of securing a compromise was rapidly disappearing. When two groups of intelligent men differ on a policy, which, after all, is very largely a matter of opinion, it is a fairly hopeless task to bring them together, particularly when each considers his livelihood at stake. The letter of Chas. Kaiser in your January issue seems to express in probably a little more forcible language the views of a number of the witnesses at the Nelson Enquiry. There is this difference, Mr. Kaiser seems to be fighting against something which might happen!

Even voluntary co-operation has its opponents, both inside and out; it can therefore be expected that any form of compulsory co-operation will prove unacceptable to the independent thinker.

1936 Empire Fruit Conference. Those responsible for the appointment of Mr. Geoff. Brown as the Australian Representative to this important Conference are to be congratulated on the choice of a representative who has already rendered great service to the Australian fruit industry. Up to the present the question of New Zealand representation at this conference has received little or no consideration in the fruit districts. It is not sufficient that the London manager of the Fruit Board represent New Zealand; such a move entirely departs from the spirit of the suggestions which first brought this conference into being. It is essential that the conference be mainly composed of visitors from the Empire fruit-producing countries, that is, if the full value of the personal contact between representatives of all parts of the Empire is to be secured.

Sprays: Unseasonal weather during the spraying season has thoroughly tested individual spray programmes. This fact has emerged—it is good insurance to purchase approved materials. In normal years black spot is easily controllable, but under extreme conditions many growers are unsuccessful. Sales of all spraying materials have gone up. Colloidal sulphur sales have nearly doubled—this material is in very popular use throughout New Zealand. The heavy rains in the growing period have had a tonic effect on growth.

In some quarters it is suggested that fertilisers applied over the past few years have only become active with the heavy rains, and one authority has been heard to suggest that the theory regarding nitrogen being available for only a short time after application has been exploded. Many lessons have been learned in producing the 1936 crop, and they will not be easily forgotten.

(For later N.Z. Notes see pp. 6 & 34)

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New South Wales

Crop Prospects — Interstate Apple and Pear Grading Regulations — Banana Bunchy Top Spreading — New Banana Marketing System Proposed — Organisation Problems — Poll Requested re Orchard Tax.

(By Our Correspondent.)

MUCH ACTIVITY is being displayed in fruit-growing centres now. Apples and Pears have come forward freely to market, and ships are loading fruit for export.

Reports from the Director of Marketing indicate that Apple and Pear prospects are fairly well maintained, though unseasonal conditions prevailed in some areas of this large State. There were losses of fruit by strong winds at Young and on the Murrumbidgee Irrigation Areas: also sun-scald caused reduction of prospective yield. Around Albury and Lavington, Jons. fair, others light.

In

the Bathurst area good rains fell. Granny Smiths are showing up well at Capertee, but crops generally light. Clean crops of Williams Pears harvested. Packhams, light to medium. At Ilford, Apples light, with fair crops of Cleo. and Rome. In Pears, Williams and Packhams are best: Boscas 50 per cent. crop. Around Yeltholme crops light; at Rydal, fair: at Hartley crops of Granny, Dels., Jons. and Londons light, Romes a failure: McIntosh and Cox's are best here. Fruit clean. The Williams Pears have a medium crop, other varieties light to medium.

Around Perthville, Grannies and Statesman promise a two-thirds crop; Jons. and R.B.'s about a half crop. Packhams Pears are in good supply. At Newbridge good quality Jons. and Londons, Demos, Dels. and R.B.'s are coming on. The Williams Pear crop was satisfactory; Boscas and Howells though light are of good quality. Apples are maturing well at King's Plains, with G.S., Jon. and London best; R.B. and Demo., fair; others very light. Pears, light.

The Goulburn District.

Apples light at Boorowa, G.S. and Jonathan best. Pears good — Williams B.C., Packhams, W. Cole and W. Nelis. Around Crookwell Jon. and Del. light, G.S. and Londons fair, W.B.C. Pears good, others mostly light. At Parkesbourne Jon. and Rymer have good crops, G.S. and L.P. light, Fameuse and R.B. medium. Pears generally good to heavy, except Howells.

At Yass, crops medium, Jon. and R.B. good. Growers did well with Williams Pears. Apple crops light at Penrose; Pears medium.

Tallong—Mittagong—Camden.

Around Tallong, Apples generally light, G.S. and L.P. only fair: Jon. and R.B. one-fourth of normal, Del. and K.D. failure. Pears only fair — W.B.C., Packham, W. Cole and Bosc. At Mittagong, Gravensteins harvested followed by McIntosh Red: 5 per cent. damage from sun-scald, otherwise crop prospects maintained. In Pears Williams were slightly heavier than anticipated, others unchanged.

At Lakesland Apples developing well, and crops satisfactory. W.B.C. Pears harvested, others sizing well.

Around The Oaks, McIntosh Red harvested, and were in demand: Jons. ready for export mid-February; G.S. at end of February; fruit clean. W.B.C. Pears harvested, Packhams good. From Oakdale McIntosh Red sold well: Jon., Del. and G.S. maturing well. At Wedderburn crops light, G.S. matured early, harvesting to be completed at end February.

Northern Tableland.

Strong winds and dry weather damaged trees and fruit in this area. At Kentucky some orchards lost 20 per cent. of crops. Apples generally patchy, but G.S. and Demo. fair. Fruit clean; were consistently sprayed. With Pears there was heavy shedding; crops of W.B.C., P.T. W.N. and B.B. patchy: at Uralla these varieties have good clean crops. Around Arding Apples, especially Del., exceeded expectations: R.B., Jon. and Tasma heavy, G.S. fair. At Armidale G.S. light, L.P., McIntosh, and Jon. very heavy. Other varieties include (not extensively) Twenty Ounce, Cleo., Northern Spy and R.B. — all heavy: Del. and P.D.N. light; Jons. matured early. With Pears the dry spell caused shedding of P.T., W.N. and Jos.: other varieties hung well; B.B., heaviest for years.

At Orange.

Around Orange Apples light, except Demo. and R.B. Pears good, especially W.B.C. and P.T.; Plums, good, especially Presidents. Grand Dukes and Presidents ready for export, and local market in mid-February. At Molong fruit small, rain needed. In Stuart Town area G.S., Jon. and Del. fair, P.D.N. small. Pears good, especially W.B.C. and P.T.

The Young District.

Heavy rains mid-January benefited crops. Apples generally light. Prunes, particularly D'Agen, dropped 50 per cent; Robes light, wind damage at Waterview and Wallendbeen. Pears, medium to good. Around Wirrimah, G.S. maturing early; Jons. good, the bulk are for export; Tasma good, Cleo. fair, R.B. light.

Murrumbidgee Irrigation Area.

Apples heavy; early varieties were ready for export at end of January; hail damage at Yenda, windstorm damage elsewhere, especially on exposed orchards. Pears — W.B.C. harvested well: P.T. ready for export at end January.

At Griffith heavy premature falls of Prunes, particularly D'Agen; balance affected by hot weather. At Leeton Prune crops harvested.

... : : : :

Citrus.

The Dept. of Agriculture reports continued marketing of Valencias, the quality deteriorating, noticeably in the Hills districts. Shedding of main crop heavy.

... : : : :

Bananas.

Supplies lighter from Tweed Heads — substantial consignments, though decreasing, came from Murwillumbah.

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bah; some hail damage around Mullumbimby and Lismore. From Coff's Harbor were heavy marketings, Macksville medium.

Passionfruit.

Reports received early in February stated bulk of summer crop harvested — in Cumberland district good crops of summer fruit came forward; quality only fair. Autumn crops show promise, and moderate yields expected.

Apple and Pear Grades.

The Director of Fruit Culture, Mr. C. G. Savage, attended the Interstate Conference on Apple and Pear grading for interstate markets, convened by the Victorian Fruit Marketing Association. His advice was appreciated: he conferred with the Fruit Growers' Federation of N.S.W., and the Federation has since written to the V.F.M.A. expressing appreciation of the understanding arrived at, and stating they are in general agreement.

[Full details were published in February "Fruit World and Market Grower."]

Mr. Savage is seeking both from Tasmania and Victoria a list of the varieties, with color requirements, for gazettal for marketing in N.S.W.

It is felt that much good will result from this interstate conference, as the foundation has been laid for definite improvement in the marketing of Apples and Pears.

It is understood there is a working arrangement between the Departments of Agriculture in the several States regarding the gazetting of uniform regulations governing the sale of Apples and Pears.

At the interstate conference referred to a valued suggestion came from the Victorian Superintendent of Horticulture, Mr. Ward, to the effect that a resumption of the conference in July in Sydney was desirable, in order to check up, from supplies of fruit actually on the market, the quality as compared with regulations as drafted.

Organisation Problems.

Moving around the various districts it is evident there is much divergence of opinion among growers as to the best method of achieving better organisation in the industry.

There are many loyal supporters of the Federation, as at present constituted; others say the expense of conferences and administration are too high, and others again are frankly critical and hostile.

At a recent meeting of the Citrus Growers' Defence Association at Hornsby, strong criticism was ex-

pressed of the Australian embargo on N.Z. Potatoes and Apples, which was deemed to be a major cause for the N.Z. embargo on N.S.W. citrus.

A resolution was carried objecting to the setting up of any committee or organisation restricting the freedom of the individual in the marketing of citrus fruits.

Regarding the Orchard Tax, delegates stated it was not the amount of the tax which was objected to, but the way the revenue was used. It was decided unanimously —

That the Government be asked to take a referendum on the Orchard tax, as promised when the tax was originally introduced.

It was also resolved:

That the Export Council does not represent the growers, and this meeting therefore protests against the Council taking any action, or even speaking on behalf of growers without the growers' authority.

Lisarow Meeting Requests Poll.

At a meeting of the Lisarow Branch of the N.S.W. Citrus Growers' Defence Association, held on February 3, a resolution was carried requesting a poll on the subject of the Orchard Tax. Mr. R. Hill presided. Many vigorous speeches were made, the speakers including Messrs. Bert Moore (Gosford), E. P. Fuller (Lisarow), J. F. Sterland (Lisarow), G. Roughley (Middle Dural), H. Walker (Glenorie), H. C. Yarnall (Ourimbah), J. W. Thacker (Lisarow), and W. Black (President, Citrus Growers' Defence Association).

Considerable opposition was expressed against the Fruit Growers' Federation. Speakers contended that when the Orchard Tax was asked for, and promised, the then Minister for Agriculture, Mr. Chaffey, promised that a poll would be taken if the growers asked for it. Mr. Bert Moore was of the opinion that the tax had served its purpose, and should be abolished, as growers now had their co-operative and bulk loading organisations, and the Federation, with its conferences, was a continuing expense: had the money raised by way of orchard tax been paid into an organisation such as the Gosford Bulk Loading Society they would have had a capital of £100,000.

The meeting requested to expedite the demand for a poll, and endorsed the action of the executive in pressing for the lifting of the N.Z. embargo on citrus fruit.

Decentralisation Supported.

At a meeting of the Central Coast district of the Fruit Growers' Fed-

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GERRARD
The Tie That Binds

ration of N.S.W., held at Gosford, Mr. A. S. Brown (a member of the board), who presided, criticised the expenditure of the Federation, contending that half of the revenue received should go to district councils, and not be used by the central administration, and the travelling of highly paid officials. Decentralisation was needed. As constituted at present, the Federation board consisted of men representing different classes of fruit, and citrus growers were under a disadvantage.

Mr. A. E. Lillicrap, of Mangrove Mountain, another member of the board, put the other side of the case, affirming that the benefits secured by the Federation were worth ten times its cost. He urged there be no alteration while the Federation was working for the proposed marketing organisation legislation. He said the crux of the trouble was that the citrus growers within the Federation were outvoted by representatives of other fruits. Sectionalisation was the only way out of the difficulty.

The necessity for a separate organisation of citrus growers was stressed by Mr. A. O. Browne, of Morisset. Overseas exports were all right for the Apple and Pear growers, but experience did not encourage the export of citrus to U.K.

It was finally decided to refer this matter to branches of the Federation throughout the district, and that delegates be instructed to express their opinions at the next central coast district conference.

Regarding the amount saved by insurance on 1934 citrus exports to the United Kingdom, it was decided to ask the Federal Government to make an allowance to the growers, equivalent to the amount involved without further delay. This was asked for, not as a charity, but as an act of justice to growers who had paid the insurance premiums and exported at a loss in an endeavour to assist the local market. It was also decided that Mr. S. L. Gardner, M.P., be requested to move that the correspondence between the Government, the packing houses, and the exporters be tabled in the House of Representatives.

The New Zealand citrus embargo was discussed, and it was decided to ask that the Acting Minister for Customs be sent to New Zealand to discuss a trade agreement with the Dominion Government.

A full conference of central coast growers is to be held at Gosford on February 28 to consider Mr. A. S. Brown's proposals with reference to the expenditure by the Federation.

OUTSIZE JAPANESE PLUMS.

Some huge Plums were recently exhibited by a George-street, Sydney, florist, and attracted much attention. Some reached 8½ inches in circumference. They were grown in the garden of Mr. J. Archbold, of Roseville, from seedlings obtained from Japan.

BANANA BUNCHY TOP.

Existence of Industry Threatened in N.S.W.

The seriousness of the Banana bunchy top infestations is now recognised. The disease is spreading at an alarming rate, and growers are urging the appointment of additional inspectors at once. Many plantations have been destroyed: others are in process of destruction. Honorary inspectors appointed by the N.S.W. Banana Growers' Federation are performing useful service in spraying infested plants with kerosene until they can be dug out.

The bunchy top disease caused a major disaster to the N.S.W. Banana growing industry from 1921 to 1925.

It is now realised that only prompt and drastic action can prevent a repetition of the disaster.

The Tweed River district is seriously affected: bunchy top is spreading rapidly. Unless the outbreak is checked, it is feared that the Brunswick district will be affected.

BANANA MARKETING.

New Organisation Proposed for Growers on Single Sucker Areas.

The growing of Bananas on the single sucker system is deemed to have many advantages,—the production of better class fruit with less labor, while the plantations last longer,—and a proposal now under consideration for growers who produce their fruit in this way to market same under a distinctive brand. The new organisation would be created with the consent of the Committee of Direction in Queensland and the Banana Marketing Board in N.S.W., and would include growers both in Queensland and N.S.W.

It is believed that the high-class Bananas marketed under this brand from single sucker areas would command better prices, and would soon influence other growers to adopt the system and to come in under the marketing system.

Customer: Look here, this photo's abominable! You've made me a perfect fright.

Young Lady: Beg your pardon, sir, but we thought you wanted one of our guaranteed correct likenesses.

APPLE WRAPPING PAPER.

THE WRAPPING OF APPLES is necessary for the export trade. Growers are finding equally a commercial proposition for the Apples to be wrapped for local and interstate marketing.

Following are shown the sizes of paper necessary for different sizes of fruit:

Size of Fruit. (transverse diameter)	Size of Paper. Inches.
2½	9 x 9
2½	10 x 10
3	10 x 10
3½	12 x 12

A pamphlet "The A.B.C. of Apple Packing" is obtainable free on application to the Dept. of Agric., Box 36a, G.P.O., Sydney.

Castle Hill (N.S.W.) Show.

Record entries in all sections were received by the Committee of the Central Cumberland A. and H Association, for the annual show at Castle Hill on February 14 and 15. The official opening was performed by the Prime Minister (Mr. Lyons).

Awards:—Apples: Jonathan, J. Farram; Granny Smith, G. Nolland; Macintosh, A. G. Banks; Aitkens' seedlings, A. J. Longley; a.o.v. cooking, H. G. Moore; a.o.v. dessert, A. J. Longley. Pears: Packham's Triumph, E. E. Gilbert; Williams, J. Farram; China, S. E. Allen. Quinces: H. Shonk. Peaches: Clingstone, A. J. Longley; freestone, E. E. Gilbert. Plums: Narrabeen, H. G. Moore; President, E. E. Gilbert; Collection of summer fruit: S. E. Allen. Collection citrus: S. E. Allen. Valencia Oranges, E. E. Gilbert. Case fruit.—Apples: Granny Smith, cooking and dessert, J. Farram; Valencia Oranges, J. M. Weaver. Grapes, any variety, C. Ireland; case, E. Basedow.

CORRECTION.

In the advertisement of Pacific Potash Limited, which appeared on page 28 of the 1936 edition of the "Fruit World Annual" a typographical error occurred in the setting of this advertisement. The second paragraph of the advertisement should have read, "will 'tone' the crop up to the pitch of maximum quality." The following quotation from the 1933 annual report issued from East Malling, England, should have read, "Potash evidently increases shoot growth, amount of crop, and size and quality of fruit."

We have received many appreciative comments regarding the article published by Mr. D. H. Case, B.Sc., Agr., and Advisory Officer for Pacific Potash Ltd., entitled "Modern Cultural Knowledge." This article, which illustrates results obtained on "Delicious" Apples at a Thulimbah, Queensland orchard, is well worthy of perusal by any of our readers who have not already noticed same.

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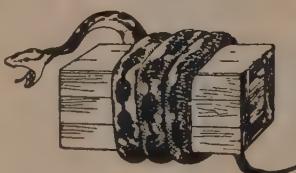
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1936 EXPORT PRICES.

Sales and Prospects.

The Canned Fruits Control Board has now advised the opening export prices for Peaches, Apricots and Pears. The new rates show little change from those operating last season, a reduction of 4½d. per dozen in 30-oz. tins in Peaches being the main alteration. The Californian pack will be larger than in 1935, which, however, had a large carry-over into this year.

The 1936 c.i.f. prices in London are:

Apricots.

(Prices are for Dozen Tins.)

Stan-

Size.	Choice.	dard.	Second
30-oz.	7/9	7/-	6/7½
16-oz.	5/-	4/6	—

Peaches.

30-oz.	7/1½	6/4½	6/-
16-oz.	4/9	4/4½	—

Pears.

30-oz.	8/3	7/6	7/1½
16-oz.	5/6	5/-	—

Sales in London.

Immediately the prices were announced in London, there was heavy buying activity, and orders were placed for at least 50 per cent. of the expected pack, some 750,000 cases are reported as having been sold to date, out of an anticipated pack of well over a million cases. There is little prospect of advanced prices on Apricots and Pears at present, and the heavy stocks of Californian Peaches creates a very competitive market. There is no doubt that the uniformly improved quality of Australian canned fruits is resulting in increased sales in the United Kingdom, enabling them to compete more satisfactorily with California.

Prospects.

This season's pack of Apricots promises to be the largest on record, beating 1933, which has held the record up to date. Peaches will probably be lighter than last year, Oriental Peach Moth being responsible for losses. Pears should about approximate last year's figures.

So far the indications are that both quantity and quality will be very satisfactory this year, and the total pack should be quite as large as last year, with Apricots well in advance. Last year Australian exports aggregated 1,032,000 cases of Pears, Peaches, Apricots and fruit salad to Britain, and 2,783 cases to other destinations. During January of this year we shipped 1,549 cases to the East, and it is probable that last year's figures to the East and miscellaneous small markets will be well eclipsed.

Canada. The shipments to Canada are expected to be about the same as last year, with a slight increase in No. 10 (1-gallon cans), which has created a good demand; in fact, in some varieties the demand cannot be met.

New Zealand. The response from the Dominion is quite satisfactory to date, although U.S.A. is showing increased activity upon that market.

IMPROVEMENTS AT SHEPPARTON.

Oil Burners Added.

Keeping pace with increased output, the Shepparton Fruit Preserving company has recently installed many new features. The latest is the fitting of a second furnace to consume oil instead of wood fuel. One boiler at the cannery has been operating on oil fuel for some time, but to provide the very best facilities for the busy season ahead, the company decided to duplicate this method.

Storage facilities adjoining the main building have been provided with sufficient capacity to ensure continuance of working in the event of the non-arrival of supplies from any cause. In addition to improvements in the boiler room, the company has also recently enlarged their cool storage capacity.

New Method for Canning Peas.

The following paragraph appears in a recent issue of "Food" (Australia):

"Word comes from Idaho, U.S.A., that a process for canning green Peas has been put forward by a scientist there. It is claimed that the time required by this process reduces the usual time to one-fifth. The new device, for which a patent has been applied, is said to sterilise the Peas, fill them into the cans and close them in a few minutes. All of the machinery necessary for complete operation is enclosed in a sterile container made of rust-proof material. This container is provided with glass windows that enable the operator to view the entire canning process. All devices in the case are electrically controlled from the outside. The machine itself is driven from outside shafts."



Another view in the packing shed of S. J. Perry & Co., at Shepparton, Vic. Approx. 100,000 cases were packed for export this season.

GOULBURN VALLEY UP-TO-DATE.

Improved Machinery.

Modernity is becoming a recognised part of fruit processing in the Shepparton district, and packing plants are fast becoming up-to-date. The last few years have seen great changes introduced, and during the recent quiet spell, several improvements have been added to canning plants.

Fruit Washing Machine.

Messrs. S. J. Perry & Company have just installed a large fruit washing machine which will simplify handling and washing and save much work. It is said to be the only unit of its kind in Australia.

It is 117 feet in length. Its purpose is to remove the spray that has dried on the fruit and make the latter conform to export requirements. The washing is done by sprays in four different chambers, each 10 ft. long. The first two contain a spray of dilute hydrochloric acid, the third

clean water and the fourth a solution of alkali soda to neutralise any acid remaining on the fruit. A final washing by water spray is given before the fruit is roller-conveyed to the packers, and a further roller conveyor takes them right into the cool store.

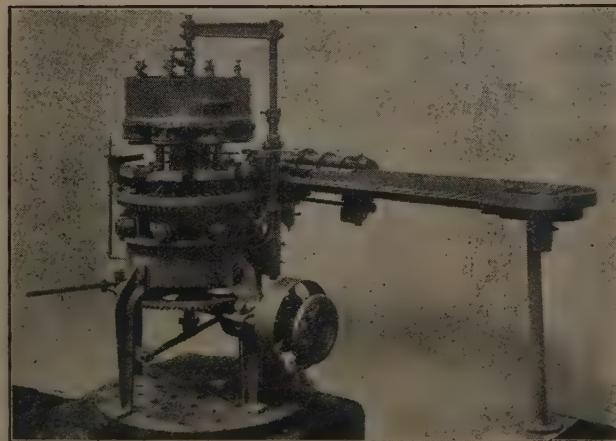
Tomato Pulping.

The latest hygienic plant for pulping and sterilising Tomatoes has been installed by Messrs. Tillock & Company. In this plant the fruit is conveyed on endless belts past a sorter who discards unripe or soft samples. The Tomatoes go into a vat where they are washed in running water, on into the crusher from which the pulp is pumped into the large storage tank. From the tank the pulp is run into steam-heated coppers in which it is sterilised before being sealed in four-gallon tins for distribution.

Stainless steel comprises all the metal parts that might come in contact with the fruit, and the floors are cemented, and easily washed. The whole plant is beautifully clean.

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FOREIGN PULP IN JAMS.

"Fraud on Public," Alleges Inspector.

The Public Health Department in New South Wales is continuing its campaign to rid the Sydney market of jams which do not comply with the pure food regulations.

At the Central Summons Court, Sydney, on January 6, J. P. Cureton, a wholesaler, of Parramatta-road, Camperdown, was fined £5 and £7, respectively, with costs, on two charges of having sold adulterated jam.

Evidence tendered by Inspector Allison was to the effect that he purchased from defendant a 1½ lb. tin of jam, which, on analysis was found to contain a considerable quantity of foreign pulp. A tin of Raspberry jam was also found to be adulterated. Samples of Peach and Apricot jams complied with the regulations. The jams were guaranteed by a company at West Melbourne.

Witness submitted that the adulteration constituted a fraud on the public. Raspberry jam cost £37 per ton, and Apple pulp only £6 or £7 per ton. By adding the latter, some

manufacturers were enabled to compete unfairly with the honest maker.

For defendant, it was stated that Cureton had been in business only twelve months, and had been handling the lines complained of for only a few weeks. The factory concerned had been communicated with, and the proprietors had undertaken to comply with the Act. The jam, or which not a great deal was on the market, was being withdrawn.—"Food," Australia.

DON'T TELL ME.

Don't tell me what you will do
When you have time to spare;
Tell me what you did to-day
To ease a load of care.

Don't tell me what you will give
When your ship comes in from sea
Tell me what you gave to-day,
A fettered soul to free.

Don't tell me the dreams you have
Of conquests still afar;
Don't say what you hope to be
But tell me what you are!
—Grenville Kleiser ("Pacific Rural
Press")

Nails for Fruit Cases

Report of Researches Made on Various Types of Nails

OF ALL the wood fasteners, wire nails are those most commonly used, having the advantages of cheapness and ease of fixing (states the Forest Products Division of the Council for Scientific and Industrial Research). Their principal disadvantages are comparatively low holding power and tendency to split the wood in driving. In an endeavor to overcome these disadvantages, a considerable amount of research work has been carried out all over the world, and a great number of special nails have been designed and patented. Some of these have been very successful, while others have been no better than the plain nail, and in some cases, inferior to it.

The quest for greater holding power has been directed along three main lines:—

(a) Increasing the area of contact with the wood for a nail of given weight, e.g., using

square nails, oval nails, and fluted nails.

(b) Increasing the friction between the nail and the wood, for example, by coating the nail with a resinous compound or by roughening the surface of the nail by chemical treatment or by sand rumbling.

(c) Obtaining a mechanical hold in addition to frictional hold, e.g., barbed nails, twisted (screw) nails.

Of the above, those coated with a resinous compound ("Cement-coated") and the barbed nails have been the most popular overseas, although tests by the United States Forest Products Laboratory showed that when driven into dry wood, the barbed nail used in the United States is not as efficient as the plain nail. In Australia, special nails claimed to have high holding power have been used to a considerable extent, particularly in the manufacture of wooden boxes. These nails may be divided into the following classes:—

- (1) Barbed or jagged nails.
- (2) Twisted or spiral nails (screw nails).
- (3) Cement-coated nails.
- (4) Rusted and sand rumbled nails.

Very extensive tests were carried out by the Division of Forest Products to determine the relative merits of these nails. The results of the tests showed that the twisted and rusted nails were definitely superior to plain nails in holding power, but that the other types of nails listed above were little or no better than plain nails. The most efficient nail of the seventeen types tested was a twisted nail made from square wire. This nail was developed in Australia. Information has recently been received that a Swedish firm has commenced manufacturing this type of nail, and that their tests confirm those carried out by this Division. Where high holding power is important, it is therefore recommended that either twisted or rusted nails should be used, their slight extra cost being more than offset by their increased efficiency.

The second objection to the use of nails as fastening, i.e., splitting of the wood, is particularly serious in the case of hardwoods which, as a rule, tend to split more easily than softwood. The best way to overcome the splitting is to drill a hole slightly smaller than the diameter of the nail, but for many purposes, this is impracticable because of the cost. Splitting can be greatly reduced, and in most cases entirely eliminated by blunting the point of the nail. It has been definitely demonstrated that a pointless nail has practically no tendency to split the wood. This may appear strange at first sight, but it is easily accounted for when the wedging action of a nail point is considered. With a blunt nail, there is no wedging apart of the wood fibres, the nail crushing itself through the wood. Of course, a blunt nail is much harder to drive than a pointed nail, and its holding power is also considerably less, but as a means of preventing splitting, it can be confidently recommended. Blunt nails are on the Australian market, being known as "dump nails." In addition to the completely blunted nail, a nail (called the "semi-dump") with a point much blunter than usual is available. This is often used as a compromise between the completely blunted and the pointed nail having some of the advantages of both.

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Dried Fruits Department

N.S.W. QUOTAS FOR 1936.

THE Minister for Agriculture, on the recommendation of the N.S.W. Dried Fruits Board, has determined the following quotas for the 1936 season under the State Dried Fruits Act for purposes of intrastate trade:

Per Cent.

Currants	20
Sultanas	10
Lexias	30
Prunes	40
Peaches	40
Apricots	40
Nectarines	40
Pears	30

The above quotas represent the maximum proportion of the varieties of dried fruits mentioned which may be sold on the N.S.W. market, and are known as "Home Consumption" quotas.

The Minister for Commerce has approved of the complementary quotas, namely:

Per Cent.

Currants	80
Sultanas	90
Lexias	70
Prunes	60
Peaches	60
Apricots	60
Nectarines	60
Pears	70

being determined as export quotas under the Commonwealth Dried Fruits Act for purpose of interstate trade.

The quotas determined are tentative opening quotas for the 1936 season, and are subject to subsequent alteration as the season advances, and more reliable estimates of production are procurable. The difficulty which always exists in making early estimates of production are accentuated this season in view of the recent rain damage, especially to Currants.

THE HIGHEST YET.

Australian Raisins for Mt. Everest.

The expedition which will attempt to reach the top of the world's highest mountain is to be provided with Australian Raisins as part of its rations. It is an appreciation of the food value of Raisins and the fact that they can provide nutriment in a small compass. Sir James Cooper, London Chairman of the Dried Fruits Board, offered the expedition a supply of Australian Raisins, which they gratefully accepted, so that if this latest effort to reach the scientific goal of scaling Everest is successful, our Raisins will have some share in the success.

MILDURA ANNUAL REPORT.

Very Successful Year.

The year 1935 was one of the most successful years experienced by the Mildura Co-operative Fruit Company Ltd. in its 31 years' of existence, said the chairman (Mr. A. L. Johnstone) at the annual meeting on February 8.

A dividend of 7 per cent. was recommended, also a rebate of £1 per ton for dried fruit received and 1½d. per case on citrus fruits. The company has assets in land, buildings, plant, etc., valued at £62,029, and, during the year, several additions were made.

MILDURA DRIED FRUITS ASSOCIATION.

The annual report of the above Association was made recently by Mr. E. J. Roberts, President, and showed that the financial reserve had increased during the year by £28. Revenue was £11,081, and expenditure £9,579. A credit balance of £28,334 was reported.

The continuance of a levy of 2/- a ton for the head office of the Association and 6d. for branches was decided upon. Sales of Currants in Australia, Canada and New Zealand were up to expectations last year, and these markets are now clear for the coming season's fruit. Over 18,000 tons had been shipped to Great Britain, compared with 1,000 tons the previous year. Only 1,300 tons now remain unsold. The Sultana crop for 1935 was sold out with the exception of about 300 tons in Great Britain. The average price was £39/8/9 a ton, an increase of £2/5/- per ton from the previous year. This year's crop is light, but the quality is good, and no marketing difficulties are anticipated. Lexias were sold with the exception of 300 or 400 tons in Australia, which will be needed for the seeded Raisin trade until the new crop is available. Final payments to growers should bring the price to about £28 per ton.

SULTANAS AND CURRANTS.

Crops Are Light.

Mildura. — Harvesting of Sultana crops commenced in mid-February. Light crops are reported. It is unofficially estimated that the yield will be about 30,000 tons, compared with the yield last season of more than 40,000 tons. Currant picking was nearly completed by mid-February. It is estimated that the crop will be 50 per cent. less than that of last season owing to rain in January.

RAISINS RUN RIOT.

At the Sun-Maid packing plant at Fresno, California, Raisins travel nearly a quarter of a mile through the manufacturing plant and make the entire journey in eight minutes. The plant can pack 1,000 tons a day and employs less than 1,000 people. Most of the machinery used and the methods adopted have been developed by the engineers and staff of the Sun-Maid plant.

RAISINS INTO UNITED KINGDOM.

Australia Sends Most.

For the eleven months of 1935 ending with November, 66,284 tons of Raisins were imported into the United Kingdom at a value of £2,151,901.

Of this quantity, Australia supplied 17,595 tons, valued at £718,187. Next in quantity came U.S.A. with 16,251 tons (£446,402), Turkey 10,234 tons (£280,343), Greece and Crete 7,244 tons (£263,252), and Spain, South Africa, Russia and Persia in that order with lesser quantities.

May and June were the heavy months for Australian arrivals, November for U.S.A. and Turkey, and October for Greece and Crete.

During the same period in 1934, a total of 56,449 tons is reported, made up of Australia 23,319 tons, U.S.A. 12,806 tons, Turkey 6,981 tons, and Greece 5,163 tons. So that out of an increase of about (in round figures), 10,000 tons last year, Australia decreased 6,000 tons, whilst U.S.A. increased 4,000 tons, Turkey increased 4,000 and Greece increased 2,000 tons, and South Africa 1,000 tons.

INCREASED CONSUMPTION.

Result of Dried Fruits Publicity.

That the Dried Fruits Publicity Campaigns have assisted in increasing public demand for this variety of fruit, Mr. A. E. Hammett, Publicity Representative, told a large audience at Temora, N.S.W., recently.

In view of the fact that the Australian average consumption is only 13,000 tons yearly, necessitating the export of 60,000 tons in competition with Greece and Turkey, a greater domestic consumption must, in some way, be brought about, and the current campaign aims at doubling the present local consumption. Last year 2,000 tons extra were consumed as a result of similar publicity.

The A.D.F.A. is to be commended upon its consistent efforts to create a greater interest in dried fruits in Australia, and that its efforts in all States have already been beneficial to the industry is not only a matter of congratulation, but an augury that a continuance of sound educational publicity will achieve even better results.

A CORRECTION.

The Secretary of the Dried Fruits Board (South Australia) calls attention to our report of the annual conference on page 8 of our February issue. He writes: "Referring to the ever-increasing production of dried fruits, Mr. Thomas said that given favorable seasonal conditions, it was even possible for production in Australia to reach as high as 80,000 tons. This would involve an export of 67,000 tons.

"Mr. Thomas was referring to general conditions, and his remarks did not concern any particular season. He did not suggest that the present season's pack would reach 80,000 tons, on the contrary, the crop estimate is one of the lowest during recent years owing to severe rain damage to Currants early in the year. Mr. Thomas knew this and referred to the expected shortage in 1936.

"Re freights, you stated that, following negotiations with the shipping companies, it is expected that improved freight conditions will be granted this year. I did not make any reference to freights. The question of freights is not within the functions of the State Boards."

We regret the possibility of our report conveying wrong information, and are glad to pass on the correction of the Secretary, Mr. W. N. Twiss.

Harry was sitting on a bank fishing, but to his annoyance, he had caught nothing, and was getting rather tired of it. At last he got so cross that he took hold of the worm he was using for bait and said to it—"Now, look here, worm, I'll give you one more chance, and if you don't catch anything, I shall take you back and bury you alive."

RED HILL Agricultural and Horticultural Society

Annual Show

WEDNESDAY, 8th APRIL
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ENTRIES CLOSE 5th APRIL.

Further particulars from
Secretary, C. E. ROBERTS,
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TOPS AND BOTTOMS	17 x 8 1,000's
CANADIAN CASES—	
SIDES	17 x 10 1,000's
TOPS AND BOTTOMS	17 x 11 1,000's
PEARS—	
SIDES	13 x 6 1,000's
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Also Combination Packs of:—

DUMPS	CANADIAN	PEARS
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Anti-Bruze Corrugated Fruit Pads
MADE IN TASMANIA.



Green Manuring of Orchards

CONSERVATION OF SOIL MOISTURE — SUPPLYING HUMUS TO SOILS — IMPROVEMENT OF SOIL FERTILITY — PREVENTION OF SOIL EROSION — AID TO BENEFICIAL BACTERIA — REMOVAL OF SURPLUS MOISTURE — VARIETIES TO PLANT.

THE TIME HAS ARRIVED for attention to the all-important work of green manuring—the planting of cover crops. Details in this connection are set out as hereunder in the N.S.W. Weekly Agricultural notes, thus:—

GREEN MANURING OF ORCHARDS.

Objects of the Practice.

Briefly, the objects of green manuring orchard land may be enumerated as follows:—

1. To conserve soil moisture.
2. To improve soil fertility.
3. To supply food and energy to soil bacteria.
4. To prevent or to reduce soil erosion.
5. To act as de-watering plants.

For the purpose of green manuring, leguminous plants are generally fa-

vored; the bacteria which live on the roots of such plants obtain nitrogen from the atmosphere and with it enrich the soil. The legumes generally planted are field Peas, Tick or Horse Beans, clovers, Lupins and Vetches. During summer Cowpeas are sometimes grown, but, owing to the light summer rainfall usually experienced in many parts of N.S.W. green manuring during the summer months is not recommended.

Barley, rye, oats, and wheat are the principal non-leguminous crops grown for green manuring, but they cannot be so strongly recommended as legumes, because of the fact that instead of enriching the soil with nitrogen like the latter by means of the bacteria mentioned, they tend to deplete it of its nitrogen content. If non-leguminous crops are grown for green manuring, growers should apply to the soil a nitrogenous fertiliser such as sulphate of ammonia

or nitrate of soda during the spring or early summer months.

Constant Cultivation Depletes Soil of Humus.

Although it is essential, repeated ploughing and cultivation of the orchard is not entirely beneficial, tending to lessen the humus content of the soil and to change the soil structure. Loam and clay loam soils are made sticky and difficult to work, and during the hot summer months the soil is liable to bake. Organic matter is lost from sandy soils much more rapidly than from other soils, and as they become dry they are liable to wind and rain erosion.

Organic matter improves both clayey and sandy soils. In the case of the first-mentioned it improves the mechanical condition of the soil, makes it easy to work and increases the moisture-holding capacity. In sandy soils the presence of organic matter tends to bind the soil particles together, thereby lessening loss of soil by erosion, and, as in the case of clayey soils, increases moisture-holding capacity. This advantage is very great in parts of N.S.W. in which summer rain is scanty. Moreover, organic matter in the soil, in decaying, gives off carbon dioxide, which is active in soil decomposition and assists in making dormant plant food available to the living plant. Helpful soil bacteria, which depend for their food upon organic matter in the soil, aid in fixing nitrogen in the soil and also bring it into a condition in which it can be used for plant growth.

Green Manure Crops as De-watering Agents.

While, as already pointed out, the moisture-holding capacity of the soil may be increased by green manuring, the converse is also true, and it is of great importance to see that the crop is ploughed in before the soil begins to dry out rapidly in spring. It is very inadvisable to grow green manure crops in summer.

It is a well-known fact, easily demonstrated, that water obtained by a plant from the soil is transpired through the leaves. This loss of water by transpiration may be turned to good account, for it may be a means of relieving the soil of an over-plus of moisture, especially in localities where, during winter, the soil may become water-logged and in the Irrigation Areas, where a free water-table may develop owing to very copious

FEDERAL GRANT, £100,000.

V.F.M.A. Supported.

The Harcourt committee of the Returned Soldiers' Association has advised the Victorian Fruit Marketing Association of the following resolution carried at their last meeting:—

"That this meeting of the Harcourt R.S.A. congratulates the executive of the V.F.M.A. on its earnest endeavours to have the Federal grant made available on the basis for which it was originally designed, a rebate on freight on fruit exported."

applications of water in summer. If autumn and winter rainfalls are very heavy the water-table may rise to such a height that it dangerously invades the root zone. Both citrus and stone fruit trees have met disaster in this way. Where such conditions arise the green crops of autumn and early winter, will not only enrich the soil, improve its physical condition, and add to its humus content, but will also take the excess water from the soil.

In Dry Non-Irrigated Areas.

In fruit growing areas where there are no irrigation facilities and where autumn and spring are likely to be dry, the growing of satisfactory green manure crops in the orchard may be difficult and may be positively harmful to the trees. There is only one way to meet the difficulty, and build up the humus content of the soil. A crop may be grown outside the orchard, cut, spread over the orchard and ploughed in during the winter months before a possible spring drying has set in. The green manure crop should be sown during the late summer (say, during February or March) so that the plants may make good growth before cold weather acts as a check.

Rate of Sowing.

As for quantity of seed per acre, there is no rigid rule. Tick Beans, Field Peas and Lupins may be sown at the rate of $\frac{1}{2}$ to 1 bushel per acre; Clovers and Vetches at the rate of from 10 to 20 lb. per acre. A dressing of 2 cwt. of superphosphate will encourage growth. By "per acre" is not meant per acre of orchard, but per acre of area sown.

It is usual to sow strips between alternate rows of trees or vines each year; the following year the green manure crop is grown in the strips between the rows of trees not sown the previous year.

If this method is followed from one quarter to one-third of the orchard is planted to green crop each season, the proportion depending upon the width sown between the rows of trees.

The

ploughing of the crop should be effected just prior to the end of winter, for at that time the crops are still succulent and the soil is fairly damp. These conditions favor fairly rapid decay of the ploughed-in crops. If the ploughing under of the crop is delayed until the plants to be ploughed in have become fibrous, decay will be slow, and this will cause inconvenience to cultivation in summer. Besides this, the soil will be left in a very open condition, thus hastening drying as the days become warmer.

It is sometimes desirable to plough the crop in while it is still short, rather than to delay ploughing to obtain a greater mass of greenstuff to be ploughed under during late spring. Unfavorable growing conditions during autumn and early winter indicate such desirability.

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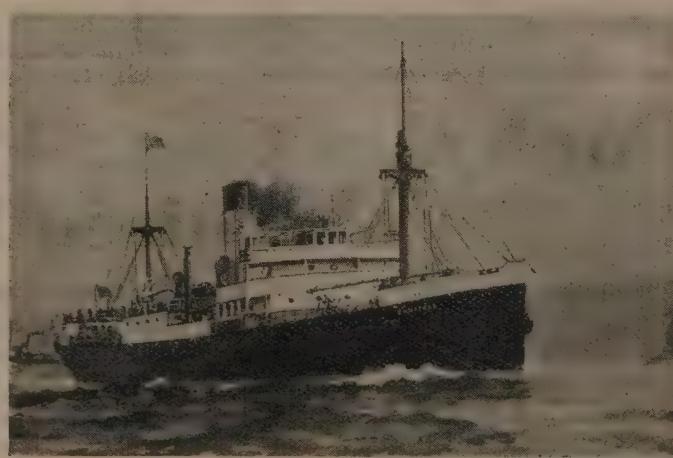
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CAPT. J. R. PATRICK, Governing Director.

Motor Cars, Trucks, Tractors

TRACTORS

Removing Pneumatic Tyres

WITH the adaptation of large balloon pneumatic tyres to tractor work raises the vexed question of what work they will entail in the event of a puncture. The same question arose when the inflated bicycle tyre was followed by pneumatic car tyres of unusual size, but now the changing of a car tyre has become an easy matter.

The pneumatic tyres fitted to farm tractors are of large section, and a little difficulty is often experienced in removing them, say, for mending punctures in the tubes. But it is simple and easy when the job is tackled in the proper way, although tractor drivers who do not know how to set to work are apt to smile at

such a statement, writes E. T. Brown in "Farmer and Settler" (N.S.W.).

Take the removal of the cover first, since this is necessarily the beginning of the work. All the valve parts must be removed and the cover pushed right into the well of the rim at a point exactly opposite the valve. It is essential for the cover to be pushed into the deepest part of the well, as it is not the slightest use applying force as the edge of the cover will not stretch, and there is always a chance that the beading may be damaged. When that portion of the cover opposite the valve is in the well it can be kept in place by kneeling on it. Next insert a tyre lever under the cover close to the valve and lift it

over the rim. This can be done easily, provided the opposite side of the cover is really right down in the well. Remove the cover from close to the valve a little at a time and when about a foot has been dealt with the remainder of the cover can be removed by hand.

When replacing the tyre the tube should be slightly inflated and placed in the rim with the valve through the hole provided for it. The edge of the cover should then be rubbed with a soapy rag to make it slip more easily over the rim. The edge of the cover opposite the valve should be pushed into the well of the rim and it is then a simple matter to push the whole cover over the rim, meanwhile keeping the first section right in the well, and using a tyre lever for the last foot or so. The tube should be deflated and the cover worked from each side so as to make sure that the tube is not trapped between the cover and the rim. The valve parts can then be replaced and the tyre inflated. If this method be adopted, little difficulty should be experienced, but naturally a little practice makes perfect.

CAR AS A TRACTOR.

It is the fashion nowadays to harness old motor cars for auxiliary duties on the farm. One English company has produced a fitting which will enable the use of a car as a tractor. The equipment forms a complete unit that can be fitted to a car by the average tractor driver in a few minutes. Once it has been affixed, the vehicle can be immediately converted to either a tractor or a car, according to what may be the actual requirement. At present, it is only available for Morris cars, but developments are taking place to render the same facility applicable to other popular makes. When used as a tractor, the fitting takes the Miller special "Non-Slip" wheels, and so imparts ample tractive effort for all such things as hoeing, drilling and general two-horse operations, the drive being most dependable and uniform, while the specially stout axle stands up to the work convincingly. A further departure is the conversion of standard tractor wheels to the well-known Miller principle. This move has been undertaken in response to many requests for a cheaper form of wheel, and the conversion embodies the original hub and spokes, but has the special cleats incorporated, and these can be fitted in either the staggered or open position. Depth rings to modify the amount of penetration, according to the class of work and the conditions, can also be supplied.

USING CAR BRAKES.

In a list of hints to new motorists issued by the R.A.C.V. from time to time, stress is laid on the extreme urgency of keeping the brakes in good order, and on the necessity of knowing how to operate them properly. Sudden braking is a very common prelude to a skid, but if the brake shoes have been brought gently into contact with the drums it is possible to increase the pressure rapidly without this result. Such procedure is far less likely to lock a wheel on a slippery road than is abrupt pedal action. For a minimum stopping distance on a dry road where the brakes can be used to the full extent the clutch pedal should also be depressed. To the watchful driver sudden, fierce application of the brakes is rarely necessary.

TRACING OIL LEAKAGE.

A Simple Plan.

Motorists often complain of their engines being heavy on lubricating oil, but fail to look for oil leakage. There is a deal of difference between oil leakage and oil consumption, yet one is often confused with the other when a loss of oil is in question, and the car or its maker is blamed for it. It should be remembered that oil leakage rarely occurs to any extent while a car is stationary with the engine stopped. It is while the engine runs at moderate and high speeds that faulty joints in the lubricating system, when under high pressure, permit oil to escape more or less rapidly, which it does more easily because it is hot.

A loose valve cover plate, or loose oil pipe union may allow considerable oil to be lost on the road during a 100 mile run. If the engine requires more oil for a given mileage, to keep up the level in the sump, than it did originally, the first thing to suspect is an oil leak.

To check this suspicion, the following plan is suggested. After the car is garaged from a run of sufficient length to make the engine and its oil really hot, spread a newspaper on the floor under the engine and then run the latter for five or ten minutes at a speed that corresponds to 20-25 m.p.h., or a good deal faster than idling speed. Watch the paper for oil drippings, and if any are noticed, endeavor to trace them to their source, which should not be a difficult matter.

HEADLIGHT BULBS.

It is not generally known amongst motorists that the use of one new headlamp bulb with an old one on the same car, not only gives unbalanced light, but causes the new lamp to burn at over-voltage. This means that the life of the new bulb is shortened because it burns too brightly. To ensure best results, the bulbs of headlights should always be replaced in pairs.

SLOW TRAFFIC.

A friend who recently visited Hobart stated that motor traffic in the Apple capital is the slowest he has ever seen. Drivers crawl along the main streets and worm their way across intersections and around corners at a snail's pace. But according to an exchange, Dutch cities excel in careful driving as the speed limit in cities is 12 miles per hour, whereas in Hungary corners must be turned at not more than four miles an hour.

TO-MORROW.

Slowly and sadly we laid him down,
And we spoke not a word of sorrow;
He told us before that he'd surely have
His brake bands fixed to-morrow.

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Some Aspects of Soil Fertility and Plant Nutrition

IN general, a soil is said to be fertile when it produces large crops.

The degree of fertility depends largely upon the amount of available plant food which it contains and upon the climatic or environmental conditions to which it is subjected. Assuming that the climatic influences are favorable for crop production, fertility is dependent upon the chemical composition and the physical and biological condition of the soil.

The success of any intensive system of agriculture such as orcharding or market gardening, depends very largely upon the promotion and maintenance of a high level of soil fertility. Under most circumstances this can be done fairly readily provided the correct cultural practices are adopted and the necessary steps are taken to replace the plant food materials which are removed by continuous cropping.

It is generally considered that ten elements, calcium, carbon, hydrogen, iron, magnesium, nitrogen, oxygen, phosphorous, potassium and sulphur are essential for plant growth. Recent research indicates that four other elements, boron, copper, manganese and zinc are also necessary. In addition, it is known that in certain cases, at least, other elements such as iodine, chlorine, sodium may be required to fulfil some special physiological function.

Plants obtain their food materials partly from the atmosphere and partly from the soil, the latter providing the bulk of the required nutrients. The four principal plant foods are nitrogen, phosphoric acid, potash and lime, and with the exception of nitrogen these are obtained solely from the soil. Certain plants, such as the Legumes, have the ability to utilise the free nitrogen of the atmosphere and to render it available for plant nutrition. The continuous growth of fruit or other crops removes relatively large quantities of these four plant foods from the soil, and if fertility is to be maintained it is obvious that these materials must be replaced.

In any fertile soil plant foods are gradually rendered available by biological decomposition and chemical interaction. Under many conditions, and particularly where continuous cropping occurs, the rate at which they become available is not sufficiently rapid to meet plant requirements and enable a payable crop to be produced. Under these conditions the use of artificial fertilisers or manures affords a ready means of providing an abundance of plant food material to meet the requirements of heavy crop production. Many soils are lacking in fertility owing to a natural deficiency of one or other of the requisite plant foods, and, again, the judicious use of artificial fertilisers will effect a marked improvement in fertility and enable profitable crops to be produced.

The Importance of Nitrogen.

Nitrogen is one of the most important plant foods, and plays a very vital part in the nutrition of all plant life. An abundant supply of readily available nitrogen in the soil is essential for the well-being of all orchard crops, as it promotes a vigorous growth of strong, healthy shoots and foliage, ensures the maximum setting of fruit, and greatly improves its size and quality. Nitrogen exists in the soil in a number of different forms, the majority of which

are highly complex substances, which as such, cannot be utilised by the plant. These substances, however, undergo gradual biological decomposition, and the nitrogen is eventually converted into the form of a soluble nitrate which dissolves in the soil solution, and is then available to the plant roots.

The amount of available nitrogen is often the main nutrient factor governing the profitable production of orchard crops and consequently it is highly desirable that the soil nitrogen content should be maintained at a high level. This can be done readily by the growth of leguminous green manure crops and by the application of a nitrogenous fertiliser such as Chilean nitrate of soda, dried blood, or sulphate of ammonia.

Generally speaking, the nitrogen content of the soil is at its lowest during the spring and early summer months, as the cold, wet, winter conditions retard nitrification and the winter rains leach out a considerable proportion of the nitrates from the soil. The promotion of new growth, blossoming and the setting of fruit depends very largely upon the amount of nitrogen available to the tree, and it is obvious that an application of a nitrogenous fertiliser such as Chilean nitrate of soda, which provides nitrogen in a form which can be immediately utilised, will have a marked beneficial effect.

(Contributed by the Chilean Nitrate of Soda Agricultural Service.)

Western Australia.

Bridgetown, 7/2/36.

Although the Bridgetown packing sheds have been doubled in size as against last year, and the quantity which will be provided against will be 45,000 cases as against some 32,000 cases last year it is not expected that the harvest this year gleaned from the Apple trees of the Blackwood will more than total 70 per cent. of that of last year, states the "Blackwood Times." Another 10 to 12 growers have signified their intention to avail themselves of the advantages of central packing.

The arrangements for the forthcoming export season should be more complete and economic in every way than was the case last year. Then, of course, everything was in the experimental stage and the only way in which knowledge could be gained was by experimentalisation. The merchandise associated with the industry will this year be accommodated in another shed so that the work of the packers will not be incommode in any way. The whole of the actual shed devoted to packing will be utilised for grading and case making and the work will be carried out under the best possible conditions. The whole position has been most carefully studied and the lay-out of the building has been redesigned to eliminate waste of human effort.

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Around Donnybrook, the Preston Valley, Argyle and Capel Districts, the Apple season is stated to be the best yet experienced. Crops are clean and prolific with a tendency, if anything, to be over-size.

The losses from sunburn are practically nil.

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Mr. H. W. Soothill, general manager of the Producers' Markets Co-op. Ltd., Perth, writes as follows on February 18:

"From all I can learn, the Gt. Southern districts are in for a very heavy crop of good Apples, although in many parts more rain is wanted. In the South West districts the crop is also heavy and in many varieties a bigger proportion than usual will tend to be over-size. In those districts maturity appears to be ahead of normal and many growers are concerned as to probable losses prior to the first shipping date.

"We have had a very heavy stone fruit crop here this season and, un-

WESTERN AUSTRALIA.

Development of Tomato Industry

THE TOMATO INDUSTRY is steadily developing. Growers who shipped to Melbourne this season secured fairly satisfactory prices, despite seasonal disadvantages at the marketing period in Melbourne. About 100,000 half-cases came forward. The West Australian Tomatoes came into competition with fruit from Sth. Australia; nevertheless, the opinion in the trade appears to be that on the returns received by the W.A. growers, there will probably be increased plantings for 1936-37 consignments.

fortunately, this has coincided with a very mild summer with practically none of that continuity of hot weather that so assists in accelerating fruit consumption. Although there has been a steady demand for best lines, many lots have been at a low parity.

"The Mt. Barker Fruitgrowers' Cool Stores Co-operative Society Ltd. has made extensive additions to their packing shed and installed further equipment to meet a growing demand there for shed packing."

QUEENSLAND.

The Committee of Direction. Growers Ask for a Commission of Enquiry.

At meetings of Local Producers' Associations in several of the fruit-growing districts, there have been animated discussions concerning the general running of the Committee of Direction. Resolutions have also been submitted concerning rumors regarding Mr. Ranger's resignation. Some growers are asking for a Royal Commission, others ask the Minister for Agriculture to recommend the Government to hold an enquiry into the working of the C.O.D. independent representation of the growers to be a feature of the enquiry.

On the other hand, resolutions have been carried in some districts stating no good purpose would be served by such an enquiry.

At The Summit and Thulimbah, the L.P.A.'s favor the proposed enquiry as regards deciduous fruits, particularly in regard to administration, export, transport and factory.

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PORTLAND SHOW

Excellent Fruit Displayed. Tomatoes Specialised.

There was a wide range of exhibits and ring events at the 29th annual show of the Portland P. and A. Society, at the end of February. Great credit is due to the President, Mr. E. W. Hedditch, and the Committee, with Mr. W. R. Egan as Secretary, assisted by Mr. W. Cook.

Portland has developed considerably as a Tomato-growing district; the soil is fertile and the growers are keen and capable. Portland is a "late" district: their Tomatoes come on to the market when other districts have finished.

The judge in both the Tomato and fruit sections was Mr. Basil Krone, of the Victorian Dept. of Agric., who expressed the opinion that the Tomato section was not excelled in any part of Australia.

Tomato Prizes.

Collection of Tomatoes (4 distinct varieties)—J. Allen 1, S. Vickery 2, Dish of Tomatoes—S. Vickery 1, J. Allen 2, Dish of Tomatoes (any variety for dessert or table)—H. Edwards 1; S. Vickery 2. Dish of Tomatoes (Pale Top)—E. W. Burris 1, C. F. Wedding 2. Dish of Tomatoes (Australian Large Red)—S. Vickery 1, E. W. Burris 2. Dish of Tomatoes (Improved Large Red)—E. W. Burris 1, A. Elliott 2. Dish of Tomatoes (Sensation)—S. Vickery 1, W. S. Ferguson 2. Packed and Graded Case for Melbourne Market—H. Edwards 1, J. Allan 2. Packed and Graded Case for Interstate Trade—J. Allan 1, J. Allan 2.

In addition to the varieties mentioned, the following were also shown: "Guernsey," "Mahio," "Early Sunrise," "Gem," "Break o'Day," "Orange Prolific," "Velocity."

Two special competitions were those for the areas of the growers:—(1) Best $\frac{1}{4}$ acre on stakes, with possible 100 points, as follows—Productiveness and commercial value (25);

system of pruning and staking (25); freedom from weeds, condition of soil and growth of plants (25); freedom from disease (25). The prize-winner was J. Allan 1st with 95 pts.; H. J. Petrie and E. W. Burns equal 2nd with 94 pts.; other competitors, W. S. Ferguson 84 pts., E. T. Veal 82 pts.

(2) Best acre of Tomatoes, possible points (75) as follows:—Productiveness and commercial value (25); freedom from weeds, condition of soil and growth of plants (25); freedom from disease and broken plants (25):—The winner was R. A. Brooks 73 pts., H. J. Petrie 2nd with 70 pts., and H. Edwards 3rd with 67 pts.

Much interest was displayed in the "Oxlo" grader, which is specially adapted for grading Tomatoes—the grading being done by weight into 16 sections—eight ripe, and eight semi ripe. The fruit is fed into a hopper and is conveyed by elevators to the grader. The rapidity of the work and the gentle handling caused much favorable comment.

Fruit Section.

In the fruit section there were excellent specimens of Apples: Jonathan, Delicious, G. Smith, Sturmer, Gravenstein, Cleo., Stewarts, etc.; Pears, Peaches, Plums, Nectarines, etc.

For the Gerrard Challenge Rose Bowl for two cases of Apples packed for export, H. Smith came 1st with E. W. Hedditch 2nd; collection of Apples, nine distinct varieties, G. S. Fellows 1, Pedrazzi Bros 2; best packed Canadian case of Apple, H. Smith 1, W. Roberts and H. Smith (equal) 2; collection export Apples, H. C. Williamson 1, W. Flower 2; other prize-winners included W. M. Flowers, C. L. Keiller, P. Robins, E. Alexander, N. Chapman, S. Vickery, R. P. MacLeod, Mrs. E. S. Atchison.

NEW TOMATO VARIETY.

A new variety of Tomato, "Eccles Surprise," which is under test in Victoria, is highly thought of by the Victorian Dept. of Agriculture.

"Eccles Surprise" is deemed to be specially suitable for southern Victorian districts. So far, experiments have shown that best results are secured where this variety is trained to grow on four or five leaders.

Much appreciation has been expressed

for the activity of the Dept. of Agriculture for its experiments with Tomato culture. Many varieties are under test as to their suitability for the varying climatic conditions in different parts of the State, and in particular the Department has been experimenting as to the best method of pruning. So far the results show that some varieties do best when trained on one or two leaders, and that other varieties need more leaders to yield best results.

PORTLAND TOMATO GROWERS' ASSOCIATION.

There are over 100 members in the Portland Tomato Growers' Association, the Secretary of which is Mr. M. Barrett. Many good services have been rendered to growers by means of this Association. The Tomato-growing industry is steadily developing in this fertile district.

Somerville Show.

The 40th annual show of the Somerville and District Fruitgrowers' H. and A. Society will be held on Wednesday, March 25. The schedule is, as usual, a most comprehensive one, and includes fruit, vegetables, flowers, farm produce, butter, cookery, women's work, school children's and Boy Scouts' work, horses, poultry, dogs, etc., with a special section for the Young Farmers' Club. The Secretary is Mr. A. F. Telford, Somerville, from whom all details can be obtained.

Pakenham.

The prize schedule of the 24th show of the Pakenham and District Horticultural Society, to be held at Pakenham on March 28, is a very complete one. In addition to the regular features showing the district's productiveness in fruit, vegetables, flowers, farm produce, etc., also the women's section, a special feature is made of the efforts of the Young Farmers' Club. The show President is Cr. M. J. Bourke, and the Secretary, Mr. A. E. Thomas.

Croydon.

The autumn fruit and flower show will be held at Croydon on March 21. This show is always a popular fixture. Choice fruit is always displayed, though of late years the flower feature has been predominant.

HARCOURT.

Growers are busy in their packing for export and local marketing. Much damage was caused by hail.

Under the auspices of the State Relief Committee, fruit unsuitable for marketing is being gathered for distribution to inmates of charitable institutions. Fruit is also being used for jam making, sugar having been donated. The work is being done by otherwise unemployed girls.

Growers who can supply fruit for the State Relief Committee, are asked to communicate with Mr. H. V. C. Wilson, Harcourt Fruit Supply Co. Ltd., Harcourt.

VICTORIA.

Rain Needed on Peninsula.

Fruitgrowers in the Somerville district are very concerned at the long dry spell. The prospects of many of them are becoming very poor as much of the fruit is undersized and unfit for export. This is particularly noticeable in orchards where the owners have not worked the surface soil to a fine tilth so as to conserve the moisture in the ground.

FIRE DAMAGES ORCHARD.

Fine for Man Who Started It.

Alfred Charles Moore, 34 years of age, was fined £5 in default 14 days' imprisonment at Essendon Court on February 24, for having ignited a fire which swept across 100 acres of grass and 10 acres of orchard at the property of Frank Milburn and others at Keilor, Victoria.

TASMANIA.

Tasmanian State Fruit Board.

At a recent meeting of the Tasmanian State Fruit Board, Mr. C. O. Smith presiding, Mr. T. A. Burnaby urged that the Fruit Board Act be amended to provide for the operation of district Fruit Boards. He moved a resolution accordingly. The chairman seconded the motion, which, however, was lost.

Council of Agriculture.

Concern was expressed because of the activities of the Commonwealth Council for Agriculture which appeared to point in the direction of Government control of industry. It was pointed out that the Council of Agriculture was composed of Ministers of Agriculture and their State officials without representation of producers. This Council was apparently acting as an advisory body to the Federal Government. On the motion of Mr. L. S. Taylor (Tamar) it was decided to write to the Prime Minister, regretting that he should accept advice from the Council of Agriculture instead of from the accredited Australian Apple and Pear Export Council.

Tasmanian Fruit Appreciated.

The Northern Fruit Brokers Ltd., of Hull and Manchester, wrote stating that Tasmania's last season's pack was equal to the best fruit received in the United Kingdom. The letter also expressed appreciation of Mr. E. Ross, H. Jones & Co. Ltd., for his article dealing with Tasmanian Apples in U.K.

TASMANIAN FRUIT CROPS.

High Quality Exports.

Since the earlier estimate of prospective Apple crops in Tasmania of 4½ million bushels, seasonal factors have entered to reduce the estimates. Warm humid conditions favored the spread of black spot, and the estimates have been reduced by some 380,000 bushels.

The Chief Horticulturist, Mr. P. H. Thomas, states that where growers systematically sprayed with fungicides the crop is under control, many growers, however, slackened up after the calyx spray.

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986-988, 990-992, 994-996, 998-1000, 1002-1004, 1006-1008, 1010-1012, 1014-1016, 1018-1020, 1022-1024, 1026-1028, 1030-1032, 1034-1036, 1038-1040, 1042-1044, 1046-1048, 1050-1052, 1054-1056, 1058-1060, 1062-1064, 1066-1068, 1070-1072, 1074-1076, 1078-1080, 1082-1084, 1086-1088, 1090-1092, 1094-1096, 1098-1100, 1102-1104, 1106-1108, 1110-1112, 1114-1116, 1118-1120, 1122-1124, 1126-1128, 1130-1132, 1134-1136, 1138-1140, 1142-1144, 1146-1148, 1150-1152, 1154-1156, 1158-1160, 1162-1164, 1166-1168, 1170-1172, 1174-1176, 1178-1180, 1182-1184, 1186-1188, 1190-1192, 1194-1196, 1198-1200, 1202-1204, 1206-1208, 1210-1212, 1214-1216, 1218-1220, 1222-1224, 1226-1228, 1230-1232, 1234-1236, 1238-1240, 1242-1244, 1246-1248, 1250-1252, 1254-1256, 1258-1260, 1262-1264, 1266-1268, 1270-1272, 1274-1276, 1278-1280, 1282-1284, 1286-1288, 1290-1292, 1294-1296, 1298-1300, 1302-1304, 1306-1308, 1310-1312, 1314-1316, 1318-1320, 1322-1324, 1326-1328, 1330-1332, 1334-1336, 1338-1340, 1342-1344, 1346-1348, 1350-1352, 1354-1356, 1358-1360, 1362-1364, 1366-1368, 1370-1372, 1374-1376, 1378-1380, 1382-1384, 1386-1388, 1390-1392, 1394-1396, 1398-1400, 1402-1404, 1406-1408, 1410-1412, 1414-1416, 1418-1420, 1422-1424, 1426-1428, 1430-1432, 1434-1436, 1438-1440, 1442-1444, 1446-1448, 1450-1452, 1454-1456, 1458-1460, 1462-1464, 1466-1468, 1470-1472, 1474-1476, 1478-1480, 1482-1484, 1486-1488, 1490-1492, 1494-1496, 1498-1500, 1502-1504, 1506-1508, 1510-1512, 1514-1516, 1518-1520, 1522-1524, 1526-1528, 1530-1532, 1534-1536, 1538-1540, 1542-1544, 1546-1548, 1550-1552, 1554-1556, 1558-1560, 1562-1564, 1566-1568, 1570-1572, 1574-1576, 1578-1580, 1582-1584, 1586-1588, 1590-1592, 1594-1596, 1598-1600, 1602-1604, 1606-1608, 1610-1612, 1614-1616, 1618-1620, 1622-1624, 1626-1628, 1630-1632, 1634-1636, 1638-1640, 1642-1644, 1646-1648, 1650-1652, 1654-1656, 1658-1660, 1662-1664, 1666-1668, 1670-1672, 1674-1676, 1678-1680, 1682-1684, 1686-1688, 1690-1692, 1694-1696, 1698-1700, 1702-1704, 1706-1708, 1710-1712, 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2078-2080, 2082-2084, 2086-2088, 2090-2092, 2094-2096, 2098-2100, 2102-2104, 2106-2108, 2110-2112, 2114-2116, 2118-2120, 2122-2124, 2126-2128, 2130-2132, 2134-2136, 2138-2140, 2142-2144, 2146-2148, 2150-2152, 2154-2156, 2158-2160, 2162-2164, 2166-2168, 2170-2172, 2174-2176, 2178-2180, 2182-2184, 2186-2188, 2190-2192, 2194-2196, 2198-2200, 2202-2204, 2206-2208, 2210-2212, 2214-2216, 2218-2220, 2222-2224, 2226-2228, 2230-2232, 2234-2236, 2238-2240, 2242-2244, 2246-2248, 2250-2252, 2254-2256, 2258-2260, 2262-2264, 2266-2268, 2270-2272, 2274-2276, 2278-2280, 2282-2284, 2286-2288, 2290-2292, 2294-2296, 2298-2300, 2302-2304, 2306-2308, 2310-2312, 2314-2316, 2318-2320, 2322-2324, 2326-2328, 2330-2332, 2334-2336, 2338-2340, 2342-2344, 2346-2348, 2350-2352, 2354-2356, 2358-2360, 2362-2364, 2366-2368, 2370-2372, 2374-2376, 2378-2380, 2382-2384, 2386-2388, 2390-2392, 2394-2396, 2398-2400, 2402-2404, 2406-2408, 2410-2412, 24

Among the Retailers

Monthly Meeting :: Undersized Fruit :: Selling by Count :: Parking Conditions

The usual monthly meeting of the executive of the Retail Fruiterers' Association was held in the Temperance Hall, Russell-street, on February 6. In opening the meeting, the Vice-President, Mr. H. Kruse, after apologising for the absence of the President, through illness, referred to the severe loss the Empire had received through the death of King George V. Members then, at the chairman's request, remained standing for a brief period as a mark of their sorrow and respect.

Some discussion took place in reference to the

Parking accommodation for retail fruiterers' vehicles at the Victoria Market on the three principal market mornings of the week, many delegates being of the opinion that should stricter economy be enforced by the inspectors of space in Queen and Peel streets, more vehicles could be parked in them without inconvenience, and it was resolved that a committee of four make an inspection of the surroundings and report to Mr. Minns any suggestions they considered advisable. The matter was considered urgent as at any time now the 200 or more retail fruiterers who park their vehicles on the parking square will be forced to go out on to adjacent streets to permit of the erection of the proposed new sheds.

Under-sized Cases.

Complaints were made that many cases were in use which do not comply with the required measurements, many of them being made with timber that had been sawn whilst too green, with the result that when dry the wood had shrunk in some instances threequarters to one inch in width: this makes a considerable shortage in the capacity of the case and therefore a loss to the retailer, and the Secretary was instructed to draw the attention of the authorities to it. In justice to the inspector, it was pointed out that great numbers of these shrunken cases containing Tomatoes from the country had been intercepted by the inspectors, and the cases had to be made the required size before they permitted them to be sold, but unfortunately a great many arrive by transport at any time of the day, so it is possible a great many were not detected at all. Some of the Pear cases are also much shrunken and packers should see that they are built up to the required measurements before they pack the fruit into them.

Selling fruit by Count.

The Secretary was also instructed to interview the Superintendent of Horticulture (Mr. Ward), and ask him to have regulations put into force to make it compulsory for large fruits to be sold retail by number as early as possible.

The death certificate of another member who had passed away since our last meeting was received and the usual allowance, £20, was passed for payment to the widow.

The rest of the meeting was devoted to picnic business, the Secretary reporting that everything was well in hand, and judging by the demand already for tickets, he prophesied that (weather permitting), the approaching picnic would be one of the most successful ever held. A specially attractive programme of events for all picnickers has been arranged.

Day of Funeral of the Late King. Retail fruiterers were very much disappointed at the alteration of the arrangements for showing their sorrow and respect at the death of our late King. When at first it was de-

cided that the Tuesday was to be the day observed, retail fruiterers unanimously decided to observe the day and close their shops the same as most other business people, but when the alteration was made and banks and other business people decided to open, they were also practically compelled to do the same.

The determination of the Lord Mayor that the Victoria Market was not to be open on that day caused great inconvenience to not only the fruiterers but to the general public also, as although the former had their shops open, they were unable to procure fresh fruit or vegetables for sale, and it was practically the end of the week before the market became normal again.

Parking Conditions at the Victoria Market.

The conference, which at its previous meeting had adjourned to enable the delegates to place before their respective organisations the proposal of the retailers: "That a single row of retailers' trucks be permitted to stand in the roadways between the sheds in the old market, one-way traffic, and not to enter the market until the market was open, when all growers were in their stands," was resumed on Tuesday, February 4. The fruitgrowers being represented by Messrs. Beet, Aspinall, Noonan and Webb; Flowergrowers by Mr. Smith; and the Retailers by Messrs. Nutt, Mawdsley, Brown and Thompson.

Mr. Beet reported that East Burwood growers were quite favorable, but the other fruitgrowers' representatives were doubtful of their organisations. Mr. Smith stated the Flowergrowers were quite willing to go down to the lower market, provided suitable accommodation was provided.

The market gardeners were opposed to the proposal at the present, it was stated. Apologies having been received from the market gardeners' delegates for their absence, no finality was reached on the subject, but it was suggested that if a vote were taken of all stall-holders in the first five sheds, possibly a majority may favor the scheme.

A suggestion was advanced that a body be created to confer and advise on any matters that may arise at any time in connection with the smooth running of the market and possibly be of some assistance to the Market Committee of the City Council, and the following resolution was unanimously carried, viz.:

"That a committee be formed to meet annually and whenever else necessary, to confer on any matter appertaining to conditions generally at the Victoria Market. The committee to consist of two representatives of the Southern Fruitgrowers, Flower-growers, Market Gardeners, Berry-growers, Wholesale Fruit Merchants, and Retail Fruiterers' Associations, subject to confirmation by those organisations, the members of the Advisory Committee to be members of the committee also."

A copy of the resolution is to be forwarded to each association for their consideration, approval or otherwise.

Harmful Taxation.

At the quarterly meeting of the Victorian United Retailers' Council held on February 18, discussion took place over the excessive taxation the community was forced to pay, delegates expressing the view that undoubtedly the heavy burden was pressing severely on the people, many

of whom were not able to purchase the quality or quantity of foodstuffs essential to the health of their families. The representative of the butchery trade stated there seemed to be a tendency of late for the housewife to purchase smaller joints than formerly, although the families were the same numerically, other delegates representing different trades said they could endorse those sentiments in reference to their respective trades. This was considered a discreditable state of affairs in view of the large sums extracted in Government taxation, and the following resolution was moved by Mr. E. W. Thompson (Fruiterers): "That the Victorian United Retailers' Council, being of the opinion that excessive taxation is inflating the cost of living and depriving many consumers of necessary foodstuffs, earnestly appeals to the Commonwealth Government to reduce taxation at the earliest possible moment, and to make the first move by abolishing the Sales Tax." This was seconded by Mr. W. H. Hill (Tobacconists), and carried unanimously.

Fruiterers' Annual Holiday.

Fruitgrowers are again reminded to refrain from forwarding perishable fruit to market for sale on Wednesday, March 11, as the sale of fruit retail is prohibited by law on that day.

THE TOMATO AGAIN.

Is it a Fruit or a Vegetable.

Topping Charge Fails.

A recent charge of topping Tomatoes against John Dunn, barrowman, Corner of Pitt and Bathurst streets, Sydney, recently failed at the Sydney Central Summons Court.

The inspector (Arthur Alexander Roberts) under Plants and Diseases Act inspected Dunn's fruit barrow and found that the Tomatoes at the front were much larger than those at the back. The defendant claimed that there was no grading for Tomatoes. It was submitted that no offence had been committed as Tomatoes did not appear in either the fruit or vegetable sections of the regulations.

The magistrate held that the Plant and Diseases Act did not apply in this matter and dismissed the summons.

SOUTH AUSTRALIA.

Development of Tomato Growing Industry.

HERE HAS BEEN a steady development in the production of glasshouse Tomatoes in South Australia. Around Adelaide there are now some 4,000 glasshouses, and the capital value is estimated at £300,000. The fruit is handled by the Tomato Growers' section of the South Australian Fruitgrowers' and Market Gardeners' Association, the secretary of which is Mr. W. J. Kimber. The Melbourne representative is Mr. C. W. McRostie, who supervises the sale of Tomatoes, Celery, Cherries, etc., from South Australia.

During the 1936 season of selling glasshouse Tomatoes in Melbourne, prices were uneven, and often unsatisfactory, because of the vagaries of the weather: also, competition from Western Australia was a considerable factor. During the season W.A. Tomato growers sent to Melbourne some 100,000 half-cases: it is quite on the cards there will be an increase of Tomato plantings in W.A. for supplying the fruit to Melbourne.

Here again the question of market supervision arises, not only with Tomatoes but with all other fruits. There is at present no interstate co-ordination, and supplies come forward without one State knowing what the other is doing. The ideal would be the supplying of the market fully with its normal requirements, thus bringing best returns to the producer. However, there are many factors involved, not forgetting the most potent of all—the weather.

During the period that South Australian Tomatoes were on the Melbourne market this season, it became necessary for two members of the committee to visit Melbourne; these were Messrs. H. Weymouth and A. F. Huelin.

... : : : :

The Marketing of Celery.

A meeting of the Campbelltown branch of the S.A. Fruitgrowers' and Market Gardeners' Association is called for March 9, when matters relating to Celery distribution will be dealt with.

The South Australian Celery season is expected to open about March 7, when small quantities will be available for interstate markets. The first market likely to be developed this year is Sydney: by the end of the

(Continued on page 31)

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THE MARKET GROWER

OFFICIAL ORGAN OF THE MARKET GARDENERS AND FRUITGROWERS' SOCIETY OF VICTORIA.

President: H. A. Le Page, Vice President: Cr. A. Bunny. Committee: G. Ryan, C. James, C. Baker, L. Lawrence, J. Hawkes, J. Stocke. Arbitration Committee: H. V. Barnett, W. Simmonds, E. A. Le Page, H. Besant, W. D. Barnett.

Secretary: Cr. C. C. A. George, Highest Road, Moorabbin, Vic.

ALSO OFFICIAL ORGAN OF THE KOONDROOK & BARHAM TOMATO GROWERS' ASSOCIATION.

Control of Club Root in Cabbage Seed-Beds

J. G. Gibbs, Mycological Laboratory, Plant Research Station, Palmerston North, N.Z.

CLUB-ROOT is a disease which attacks Cabbage, Cauliflower, Brussels Sprouts, and allied crops. It produces a tumid distortion of the roots, and often causes wilting and premature death of the plants. Infection is caused by spores in the soil.

To obtain healthy seedlings, which are essential to the production of healthy crops, the spores may be eradicated from infected seed-beds by soil disinfection.

Commercial growers possessing high-pressure boilers will find steam disinfection the most economical method; but where steam is not available a chemical disinfectant must be used. At the Plant Research Station, Palmerston North, three seasons' experiments on heavily infected ground have shown that a 0.1 per cent. acidulated solution of mercuric chloride is the only economically efficient disinfectant for the eradication of club-root from the soil. The treatment costs approximately 4d. per square yard, and must be applied before sowing. It has no detrimental effect on subsequent germination or growth.

Mercuric chloride solutions are strong poisons and rapidly corrode metals. They should be kept out of reach of children and stock, and containers should be washed after use. As corrosion weakens the disinfectant, the tins and watering-cans used during application should be protected by rinsing every two hours with benzine containing a little oil.

Method of Application.

A concentrated solution of the dis-

infectant which may be kept bottled indefinitely is made up as follows: Mercuric chloride (powder), 1 lb.; commercial concentrated hydrochloric acid, 3 lb. The seed-bed should be prepared for sowing and divided into areas of 2 square yards. Water in 4-gallon tins is carried to the bed, and there 1-3/5 fluid ounces of the concentrated solution rapidly stirred in. The disinfectant solution so formed should be distributed immediately through a fine rose evenly over the two square yards previously marked out. Penetration of the disinfectant is deeper when the surface soil is moist and when a gallon of clean water per square yard is applied about an hour after treatment. The seed-bed should be left for ten days before sowing.

The efficiency of the method depends on (i) the rapidity with which the mercuric chloride solution can be poured on the soil, and (ii) the prevention of reinfection by disease-carrying soil. Implements and boots should be disinfected in a solution of mercuric chloride immediately before working on treated beds; for doing this a wooden bucket containing 2/5 fluid oz. of the concentrated solution per gal. of water, placed near the seed-beds, is helpful. For satisfactory disinfection it is advisable to wash adhering earth from the implements, etc., and to keep them damp with the disinfectant for ten minutes. Metal implements should not be left immersed in the mercuric chloride solution for more than a few seconds. — N.Z. Jour. Agric.

New Varieties Tomatoes and Potatoes from U.S.A.

American farmers and scientists are continually experimenting with new varieties of all kinds of fruit and vegetables and two of the most recent announcements concern Tomatoes and Potatoes.

Tomato Hybrid: A new Tomato variety obtained by hybridising standard sorts in an effort to obtain a strain that would combine the desirable qualities of different varieties entering into the cross has now reached the point where it is sufficiently promising to justify naming and propagating for more extensive trials, says Prof. C. B. Sayre, head of the vegetable crops division at the state experiment station in New York State.

The new Tomato has been named "Nystate," and it is proving most promising, particularly with respect to those qualities that make it highly desirable for canning. The fact that the new sort is early in maturing will also make it attractive to the market gardener.

"There are well over 1,000 named varieties of Tomatoes, and from this bewildering number the canner and farmer must choose a variety best adapted to his conditions," says Professor Sayre. "Since 1926, the division of vegetable crops at the experiment station has been growing

from 30 to 60 varieties every year for comparison to determine the ones best suited for the canning industry in New York. Several new varieties that have been introduced in recent years have failed to meet the exacting requirements of a good commercial canning variety."

"Houma" Potato: Official christening ceremonies for a new type Irish Potato, developed jointly by the United States Department of Agriculture and Louisiana State University Potato experiment station on the farm of J. G. Duplantis, were held recently during the annual Potato tour. "Houma" is the name given the Potato, after Houma, the nearest large town to the Potato farm on which the new variety was developed.



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MELBOURNE

White Flies (Aleyrodidae)

Outdoor and Glasshouse Tomatoes Affected, Also Beans.

EVER since the early summer, white flies have been particularly abundant in N.S.W. coastal districts, heavy infestations occurring on Tomatoes and Beans, according to reports from the N.S.W. Department of Agriculture. In addition to infesting outdoor crops in the summer and autumn, the same species is a serious pest of glasshouse Tomatoes during the late winter and early spring.

The adults are very small, white, delicate, four-winged insects, which congregate on the under surfaces of the leaves, and, if disturbed, swarm off the plants in clouds before settling again beneath the leaves. The minute eggs are laid on the under surfaces of the leaves, and the young on hatching are oval, semi-transparent, scale-like insects, which soon settle down on the undersides of the leaves, where they feed in a fixed position, increasing in size by a series of moults, until finally the adult free-living insect emerges.

Both the larvae and the adults injure the plants by sucking the sap. In addition, there is frequently a development of sooty-mould, a fungus which develops on the sugary liquid which is deposited on the leaves by the insects. This sooty-mould film prevents the leaves utilising the sun's rays in manufacturing food materials, and the plants thereby lose vigor.

Control.

(1) Treat with nicotine dust (2½ per cent.) during the hottest period of the day. Satisfactory results are obtained only at temperatures of 76 degs. Fahr. or over.

(2) Spray with nicotine sulphate (1 in 600) and soap (1½ lb. to 50 gallons of spray). To make four gallons of spray, use one fluid oz. (or two tablespoons) of nicotine sulphate and 2 oz. of soap.

Where glasshouse Tomatoes are infested, fumigation with calcium

TOMATOES AND CELERY.

"Out of Season" Experiments.

WITH THE OBJECT of cultivating a variety of Tomato and Celery which will be ready for marketing at periods when normally supplies for Victoria have to be drawn from other States (particularly at the end of the local season), experiments have been conducted by Mr. F. G. Ayres at Picnic Point, Bairnsdale, Vic.

For the cultivation of Tomatoes four extensive glasshouses have been built, each capable of accommodating 900 plants. Provision has been made for extensions. The maintenance of an even temperature in the hothouses has not been difficult. This is due to the fact that there are no really drastic changes in climatic conditions at Bairnsdale, so that resort to the use of hot-water systems has not been found necessary. During the cold periods the temperature is raised by the use of small fire buckets, the fuel used being charcoal with briquettes at the base.

Mr. Ayres and his sons are testing several varieties of Celery, with interesting results.

Soil sterilisation is being carried out in a chemically

cyanide or with potassium cyanide and sulphuric acid is preferable to dusting or spraying. The degree to which glasshouses may be made airtight varies considerably, and the escape of gas during fumigation varies accordingly. A fixed dosage per 1,000 cubic feet of space cannot, therefore, be specified. Whilst the department has used 2½ ozs. calcium cyanide per 1,000 cubic feet against white flies without damaging the Tomato plants, it is conceivable that this dosage might cause serious damage in some houses. To avoid the possibility of damaging the plants, one or other of the following dosages should first be tried:

- (a) Calcium cyanide ½ oz. per 1,000 cubic feet of space, or
- (b) Potassium cyanide ¼ oz., sulphuric acid ¼ fluid oz., water ¼ fluid oz. to 1,000 cubic feet of space.

If the kill is not satisfactory the quantities should be increased by ½ oz. at each subsequent treatment, until the correct amount is determined.

Cyanide fumigation should be commenced in the evening, shortly after dark, and the house should be opened up next morning before sunrise. The house, however, should not be entered for two or three hours after opening up, by which time all the poisonous fumes should have escaped.

Fumigation must not take place within 24 hours of watering, and the night on which it is carried out should be still. The temperature should not be lower than 55 degs. F., best results being obtained between 60 to 70 degs. Fahr.

As the eggs of the white fly are not destroyed by any of the above treatments, it is necessary to give a second treatment as soon as all the eggs have hatched. In summer, a fortnight should elapse before the second treatment is given, but in the cooler weather, the period should extend to three weeks.

treated bed. The seed is raised in an electrically heated seed-bed.

Bleaching is achieved by encasing the rows with strips of galvanised iron, 12 in. deep, fitted in wooden frames. After cutting the Celery is washed by a powerful water spray and carefully graded for market.

S.A. TOMATOES AND CELERY.

(Continued from page 30.)

month production should be in full swing. It is estimated that the planting this year is about the same as last year.

The annual meeting of the South Australian Celery growers will be held on March 23 at the office of the South Australian Fruit Growers and Market Gardeners' Association, Adelaide. Mr. C. W. McRostie, the Melbourne market representative will be in attendance to advise on marketing conditions.

Advertising Celery. Celery growers are to be congratulated on their extensive advertising campaigns in Sydney and Melbourne. The advertising so far has been by means of posters and picture shows. Celery growers have levied themselves to provide funds for this progressive and reproductive work. The advertising campaign is being continued this season...

Our Juniors Page

Hullo Smilers,—

Just a few words of cheery greeting. I'm sure all my young friends in the Apple and Pear districts are having a busy time, with so much fruit now ready for export. How many of you have seen the ships which take our fruit and other exports? It gives one a thrill to see them and to think of distant countries with people of different color, of tropical scenery, also the cities and meadows of Old England.

By the way, you who are taking history at school, be sure and read "A Short History of the World," by H. G. Wells. It is marvellously interesting reading and gives such a background for history that it makes the study of this subject a delight and not a burden.

I would like to hear from more of you young people throughout Australia and New Zealand. Marjorie Cowey has written again, suggesting some competitions. When writing, please send the date of your birthday and I will enter it in my birthday book. I would like to hear about your district, your orchard or vineyard, your school and hobbies.

Cheerio and keep smiling,

Your friend,

UNCLE JOE.

YOUNG FARMERS' CAMPS AT SYDNEY AND BRISBANE SHOWS.

The council of the Royal Agricultural Society of Victoria resolved at its last meeting to invite the co-operation of the Committee of the Victorian Young Farmers' Clubs' Association in the selection of Victorian Young Farmers to take part in the Young Farmers' camps at Sydney and Brisbane this year.

Invitations have been received from the R.A.S. of N.S.W. for ten boys to take part in the camp during the Sydney Royal Show, which is to be held from April 6 to 15, and from the Royal National Agricultural and Industrial Association of Queensland for five boys to attend the camp to be held during the Royal National Show in Brisbane from August 17 to 22.

It has been resolved that these invitations be accepted with many thanks, and that a supervisor be sent in charge of the boys both to Sydney and to Brisbane.

Each Young Farmers' Club affili-

ated with the Victorian Young Farmers' Clubs' Association, and financial for the current year, is invited to nominate a boy between 12 and 18 years of age to take part in the Sydney camp, and a boy between 12 and 18 years of age to take part in the Brisbane camp.

Reasons for the selection must accompany each nomination, and information supplied as to the age of the nominee and the station from which he will travel.

In order that the committee may select the boys to take part in these camps, it has been resolved that nominations must reach the Secretary at the above address NOT LATER THAN MARCH 6, because in view of the short time available to complete arrangements in connection with the Sydney Show, the committee will meet on Saturday, March 7, to deal finally with nominations received, and make selections therefrom.

The selected boys will be granted STUDENT VACATION FARES on the railways, and enquiry from any local station master will reveal the cost from the home station to Sydney or Brisbane as the case may be.

Clubs which have not yet made application for affiliation with the Victorian Young Farmers' Clubs' Association may become eligible to submit nominations by affiliating without delay.

The secretary is Mr. Louis Monod, Royal Agricultural Society of Victoria, 422 Collins-street, Melbourne.

YOUNG FARMERS AT PAKENHAM.

Valuable Prizes at Show on March 28.

Other Districts Invited to Compete.

At the Young Farmers' Section of the Pakenham Horticultural Show several sections have been included for Young Farmers, notably Apple packing; for this a shield donated by the Northcote Ice Works is to be won outright. There is also the Gerrard Cup, valued at £2/10/-, and cash prizes to the value of 10/-, 7/6 and 2/6.

There is also a very fine cup, valued at £5/5/- for the best group

FRUIT NEWS FROM LONDON.

Doubtful Apple Prospects.

Imports of Australian Raspberry Pulp.

Food Injections for Trees.

By L. Bruce Purton (Special Representative in London of "The Fruit World")

TWO COVENT GARDEN merchants I have approached on the prospects of the market here for Australian Apples this year have struck rather a pessimistic note. They said that conditions in the Apple trade here are as bad as they could be. Very big consignments of Apples from British Columbia and America have been sold forward to this market during the last quarter of 1935, and with the exception of Cox's Orange Pippins, Newtowns, and the first of the Gravensteins, no other boxed Apples had shown a profit. He added that every box of Apples, apart from these varieties had shown a loss. All the money that was made out of Australian Apples last year had been poured back into America, and a good deal of money in addition. Apples which had done very well during the 1935-1936 season had been Nova Scotia barrels. He had never seen better Apples out of Nova Scotia. One man in Liverpool had made £25,000 out of them in the season.

Another merchant said that the success of Australian Apples here in 1935 was due to the failure of English and Continental soft fruit crops, the failure of the Spanish Orange crop, and the Jubilee celebrations. This year there would be plenty of Apples coming from South Africa and the Argentine. The man who sold forward f.o.b. or c.i.f. was doing the wisest thing. On the other hand he considered that prospects were good for Australian Apples in several Continental countries if the handicaps of import and currency restrictions could be surmounted.

of pigs shown by an affiliated club of the central body.

There are many other sections with valuable prizes.

The show will be held on March 28. Entries for all sections for Young Farmers close on March 20.

Young Farmers' Clubs in other sections are invited to compete for these valuable prizes.

The president of the Army Road (Pakenham) Young Farmers' Club is Mr. A. H. Sapwell.

He also reported that the Pear trade was in a disastrous state a few months ago, but was improving. Let us hope that when Australian fruit is actually here, it will bring fair prices.

Forced Feeding for Trees.

At the East Malling Research Station experiments are being carried out by giving trees food injections. Normal methods of manuring fruit trees take a long time to show results. This new method at least makes it possible to discover the needs of a tree much more quickly, and it may turn out to be a suitable method of feeding orchards on a large scale.

A hole, a quarter of an inch in diameter is bored through the trunk of the tree and a glass tube inserted at one end, made airtight by a rubber collar fitting close to the bark. The other end of the hole is blocked by a rubber stopper.

The glass tube is connected by a siphon to a container holding the liquid that is to be injected. As soon as the air is expelled from the hole the apparatus is bound up to prevent leakage.

Experiments with 21-year-old Trees.

In the experiments at East Malling a group of 21-year-old Cox's Orange Pippin trees were treated in June with a nutrient containing a quarter per cent. of phosphate of potash and a quarter per cent. urea (a substance of very high nitrogen content). Varying quantities of the solution were used, containing up to a sixth of a pound of each substance, equivalent to about 50 lb. per acre.

It was found that in summer each tree gets its fill of this forcible feeding in from one to three days. Longer treatment is inclined to produce leaf scorch. One apparatus, therefore, can treat a considerable number of trees.

The results were interesting. Shoot growth on the treated trees was two or three times as great as that of a control group of untreated, and the increase varied in proportion to the quantity of nutrient used. These particular trees were healthy and vigorous, but the experiment is to be tried on weakly trees, and the result may be even more surprising.

Potatoes Soar in Price.

Potato prices are soaring to unprecedented heights—so much so that Potatoes may soon be regarded as a luxury. King Edwards are fetching 1½d. a lb.—twice as much as a year ago. Potato gamblers have been busy in the most important growing areas, buying up crops at £5 a ton, anticipating a rise to £20 a ton before next April. That will mean that the retail price will be 3d. a lb. There are quantities of foreign Potatoes on the market, but they are of very inferior quality. There are several reasons for the scarcity of Potatoes. One is that a specially appointed Potato Board has been restricting imports, and another is that a certain virus disease, owing to weather conditions has been set up in the clamps in which the Potatoes have been stored. Added to this is the fact that Germany, one of the largest Potato-growing countries in Europe, is several million tons short of her requirements.

Fruit Pulp from Australia.

Fruit-pulp imports into Britain are taking an upward tendency. For the first eleven months of 1935 they amounted to 914,600 cwt., representing a 17 per cent. increase on the 1934 imports for the same period, the value being £1,069,751, as compared with £852,416. In the special report on this matter that came to my notice it was specially stressed that imports of Raspberry pulp from Australia were heavy at 3,515 cwt., but the report did not give figures for the same period of 1934, so that I am unable to state the increase that was actually made.

Ship Direct to MANCHESTER

(VIA THE MANCHESTER SHIP CANAL)

It is reliably estimated that—

2,500 TONS OF APPLES

are consumed EACH WEEK by the population of over 10,000,000 within a radius of 50 miles of the MANCHESTER DOCKS.

What is Your Share of that Valuable Market?

Rates of freight are the same from Australia to all British Ports—rail and road transport and handling costs in England can be saved by shipping DIRECT TO MANCHESTER the centre of the largest industrial consuming area in Great Britain.

For information apply to—

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8 Bridge Street, SYDNEY, N.S.W.

Telegrams and Cables:
"Portoman," Sydney.

Apple, Pear and Stone Fruit Export Regulations—(Continued)

Part III.—Apples for Export to any destination other than the United Kingdom or the Continent of Europe.

Variety.	Abbreviated Description.	Sizes. (inches in diameter)	Percentage of color, characteristic of the variety, necessary on each Apple in each grade.	Extra Fancy.	Fancy.
Gravenstein	Grav.	2½ to 2¾			
McIntosh Red	McIntosh Red	2½ to 3	70	35	
Pioneer	Pioneer	2½ to 3			
Nickajack	N.J.	2½ to 3¼	30	10	
Spitzenberg	Sptz.	2½ to 2¾	40	15	
Stayman	Stay.	2½ to 3	30	10	
Rymer	Rym.	2½ to 2¾	25	10	

In the "Fancy" grade, not more than 50 per cent. of the surface of any Sturmer Apple may be russeted; for other varieties in this grade the maximum amount of russetting allowed is 30 per cent.

OVERSEAS TRADE PUBLICITY.

Good Work Accomplished in England.

Mr. Hyland's Services Appreciated.

A MEETING of the Australian Overseas Trade publicity committee was held at the Department of Commerce in February. There were present: Messrs. A. F. Bell, C.M.G., chairman (representing dried fruits), Sir Chas. Merrett (canned fruits), Crooke (egg producers), H. W. Osborne (Dairy Produce Export Board), R. E. Boardman

(Aust. Apple & Pear Export Council), J. F. Murphy (Secretary Commerce Dept.), A. W. Smart (London Publicity Office), and Moroney (Dept. of Commerce), Secretary.

A financial statement was presented which showed that expenditure in Great Britain on advertising and propaganda to promote the sale of Australian products during the six months ended December 31, 1935, amounted to £32,888, and that forward engagements represented £32,453.

A report was received from the Director of Trade Publicity in Great Britain (Mr. A. E. Hyland), giving full details of the activities and the

methods adopted in advertising. During one month, the report stated, Australian butter, dried fruits, canned fruits, fresh fruits and eggs were advertised in newspapers and trade journals throughout the United Kingdom, representing a circulation of 53,038,580.

In response to requests from retailers for shop window displays, 34,910 sets of show cards, window displaying material, etc., were forwarded to shopkeepers in all parts of the country, comprising 9,471 for dried fruit, 9,476 for canned fruit, 8,349 for butter, and 7,614 for eggs. In addition, streamers and posters had been placed

in buses and trains, on vans, leading railway stations and at selected sites in and around London.

Nine trade organisers on the staff of the publicity committee made 2,088 calls on traders in all parts of the United Kingdom, and had succeeded in opening many new accounts in Australian produce.

Radio broadcast talks on Australian products were conducted and films were shown in numerous large cities. Mr. Hyland addressed meetings of women's guilds and institutes in various parts of England, and demonstrations of Australian products were held in 84 large shops in the centres of population in England, Scotland and Wales. By those means, the report concluded, the sale of Australian products was increased considerably.

N.Z. NEEDS ORANGES.

Hospitals Short of Supplies.

"Oranges Necessary for Children," says Doctor.

Millions of Oranges in Australia Awaiting Shipment While Sick Folk in N.Z. Cannot Get Them Owing to Unnecessary Trade Barrier.

WHILE CHILDREN and sick folk in New Zealand are needing Oranges, and while Australian growers are more than willing to supply them, it seems a thousand pities that artificial barriers have been erected to prevent the fruit from going forward.

A clipping from a Wellington (N.Z.) paper, has just been sent to the "Fruit World" by Mr. P. S. Macdermott, a member of the N.S.W. Chamber of Fruit and Vegetable Industries—and one who has made very earnest efforts to secure the lifting of the N.Z. citrus embargo. The clipping is as follows:

Shortage of Oranges for Sick People. Hospital Board View.

Government Urged to Take Action.

The extreme difficulty of securing supplies of Oranges for dietary purposes was referred to last night at a meeting of the Wellington Hospital Board.

Dr. A. R. Thorne, superintendent, reported: "We have had considerable difficulty regarding fresh fruit owing to the great shortage on the market of Oranges. Representations could possibly be made to the Minister of Health regarding this matter, as Oranges are important, especially in the dietary of children."

Mr. F. Castle, the chairman of the Board, said it was regrettable that necessary fruit could not be secured for sick persons, especially children. New Zealand was only a few miles from Australia, where there were millions of Oranges. It seemed ridiculous to be short of fruit so close to such a plentiful supply. It all seemed to rest on the question of whether Potatoes were more valuable than Oranges, or something like that, between New Zealand and Australia. He thought arrangements should be made for the supply of Oranges for New Zealand even if it did disturb a little further the balance of trade with Australia.

Mr. Croskery (Chairman of Home Committee): I quite agree and hope the Government will sit up and take notice.

Jock was in London on his honeymoon. "Hullo Jock," said a friend, "where's your wife?"

"Left her home," said Jock, "she's been here before."



F. Chilton, Established 1844.
Fruit Commission Agent,
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Highest Market Prices, Prompt Returns, Reliable
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Our Motto—Quick Sales and Prompt Settlements.
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Stencils, Advice Notes, etc., on Application.

CONSIGN YOUR FRUIT TO
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Proprietor: STANLEY H. POGSON.
LICENSED FARM PRODUCE AGENT.
MUNICIPAL MARKETS, SYDNEY.
PROMPT RETURNS. SHIPPING NOS.—
58 Vic. and Tas., 68 Q'land.
Bankers: Bank of N.S.W., Haymarket, SYDNEY.

FRUITGROWERS!
For Satisfactory Results, Send Your Fruit to
F. H. G. Rogers
Fruit Selling Expert.
Municipal Markets, Sydney.
Shipping No. 83. Established 1900.

Growers Obtain Top Prices by Consigning to—
H. J. GREENTREE
(Est. 1920)
MUNICIPAL MARKETS, SYDNEY.
Shipping Nos.—Tasmania 228, Q'land & Victoria 40.
Phone: MA 1769.

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FOR FRUIT
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The Commonwealth Trade Port for
the Pacific and Eastern Trade

Associated Growers' Selling Agency
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CITY MUNICIPAL MARKETS.
BRUCE R. SMITH, Proprietor.
Reliable Service, Prompt Advice and Returns.
Highest Ruling Rates.
Phone: MA 1828.

FOR SERVICE AND SATISFACTION
Consign To
J. J. MASON,
City Markets, Sydney, N.S.W.
Fruit Agent, Licensed Under Farm Produce Agents' Act, 1926.
Bankers: Bank of N.S.W., Haymarket.
Shipping Nos.—Vic., N.S.W., Queensland, 133;
Tasmania, 185.
Phone: MA 2605.

The Victorian Fruit Marketing Association

THE MONTHLY MEETING of the Executive of the Victorian Fruit Marketing Association was held at the Board Room, Commercial Travellers' Association, Melbourne, on Friday, February 14, 1936, at 11 a.m.

There were present: Messrs. G. W. Brown (President), W. H. Carne and A. S. Harrison (Vice-Presidents), W. P. Hutchinson, F. Moore, J. J. Tully, S. Brown, H. M. McLean, W. Young, H. G. Sprague, F. R. Mellor, J. M. Ward, and W. Nunn (Department of Agriculture), and the Secretary, R. E. Boardman.

Apologies were received from C. H. Jost (leave of absence), J. B. Mills, W. A. Thiele, J. W. Bailey.

Grant of £100,000.

The chairman said that the Federal grant of £125,000 for 1933 and 1934 was in lieu of freight reduction, and this aspect had been stressed by producers in negotiating with the Government for the grant for 1935, which had now been decided upon at £100,000. In announcing the grant, however, the Government had allotted £10,000 as compensation for re-working fruit trees and £10,000 for research. He considered that the sum reserved as compensation for re-working was incapable of equitable distribution, bearing in mind the efforts of long-sighted growers throughout Australia who had been steadily re-working for many years past. The costs for administering would be excessive and this sum should not have been deducted from the main grant.

With regard to the £10,000 for research, a matter of principle was involved, and while appreciating the necessity for research into fruit cultural problems he felt the State Governments should not be relieved of their responsibilities in this connection. The Federal grant should be left intact for distribution to growers who exported Apples and Pears in 1935, as a reduction in freight helped everybody.

The Federal Government had apparently accepted advice from the Council of Agriculture, on which the producers were not represented. Already the Tasmanian State Fruit Board had sent in a protest to the Prime Minister against the activities of the Council of Agriculture. A deputation from the Australian Apple and Pear Export Council, representing all the States, had gone to Canberra at the close of the recent Executive meeting in Sydney, but their unanimous request had not been agreed to.

Mr. Carne supported the chairman's remarks—a strong protest should be made by the Apple and Pear Export Council. He moved:

"That this Association registers a strong protest against the proposal to apply, for other purposes than freight reduction to growers who exported Apples and Pears in 1935, any part of the grant of £100,000 made by the Federal Government."

Mr. Young, in seconding, said that the Government had been urging growers to organise, yet here was an instance where an organisation had been created, and the Government did not pay attention to its decisions.

Mr. McLean said that Harcourt growers had already forwarded their protest.

Mr. Hutchinson said that the Somerville branch of the Country Party had sent in some time ago a protest against the personnel of the Agricultural Council. He considered the producers' organisations should be consulted before any action was taken.

Mr. Sprague moved, Mr. S. Brown seconded:

"That this Association affirms that the Council for Agriculture should definitely consult the organisations interested in an industry before it takes any action relative to such industry."

It was further decided to send copies of these resolutions to the other States, to the Australian Apple and Pear Export Council and to State Members of the Federal Parliament as follows:—T. H. Scholfield, J. V. Fairbairn, E. F. Harrison, T. Paterson, W. J. Hutchinson, R. G. Menzies, H. S. Gullett, and J. McEwen, and to Mr. E. J. Hogan, Minister of Agriculture, Victoria.

Codlin Moth in Pears.

Letter read from Mr. W. Young, Ardmona, stating that whereas much research work had been done with regard to codlin moth in Apples, including the issuing of spraying charts, similar work had not been done with Pears. The Northern Victoria Fruit-growers' Association had taken up this matter with the Minister for Agriculture.

In support of this letter, Mr. Young said that the matter of codlin moth in Pears was very serious. It was not sufficient to have attention from orchard supervisors: the importance of the industry in the Goulburn Valley warranted scientific investigation by a trained officer into the life history of the moth in Pears. The question was being discussed as to the efficiency of arsenate of lead and the use of a suitable substitute.

He moved:

"That an approach be made to the Minister for Agriculture, pointing out the importance of the Pear industry and the seriousness of the codlin moth pest and urgently requesting that the subject of codlin moth in Pears receive scientific investigation by a trained scientist."

In seconding, Mr. J. J. Tully said that growers were disturbed at the seriousness of pests and diseases in Pears, and an investigation was needed. The motion was carried.

Mr. Ward said that preliminary investigations had been started. The matter of having a trained entomologist to study the life history of the pest would receive consideration.

Counts or Sizes.

Attention was directed to the definitions issued by the Department as to grading by eighth inches, and the difficulty of conforming with the instructions.

Mr. Ward said these provisions were inserted arising out of discussions at a Conference of the Australian Apple and Pear Export Council in Sydney. He firmly held the view that grading of Apples to counts and not sizes would overcome all difficulties. Australia stood alone in all the Apple export countries in retaining, in some States, the marking of Apples in sizes.

Grades for Interstate Fruit.

Mr. Carne reported that an interstate conference convened by the V.F.M.A. had been held at Melbourne on January 29 and 30. Delegates had attended from Tasmania, South Australia, New South Wales and Victoria. Victoria had requested that the "Extra Fancy" grade for export be unaltered for interstate trade, but that "Fancy" for interstate should provide for the possibility of each specimen having superficial blemish, but adhering to color requirements, believing this to be a better commercial grade than as at present defined.

This view was borne out by the retailers' representative.

Tasmania desired the "Fancy" grade as for export but deleting color requirements.

No agreement could be reached, and it was finally decided as a compromise that for interstate trade the "Fancy" grade remain as for export, leaving it to the Departments of Agriculture to administer the regulations with discretion.

A "Domestic" grade had been included at the instance of Mr. Tully, for local marketing only, allowing for 25 per cent. of the Apples of 2½ in. and over in each case to contain a blemish of ½ in. diameter. This was not for interstate trade.

Mr. Hutchinson said he was convinced that the Victorian request for better colored fruit, but having slight blemish was much superior for marketing than fruit with less color, unblemished. Much fruit would now be marked "good" which should rightly go into the "Fancy" grade.

Pears.

Mr. Moore reported that the grades as recommended by Victoria were adopted with the exception that at the wish of New South Wales the minimum size in good grade be 1½ in. and not 2 in. as recommended by Victoria. New South Wales, however, had been requested to reconsider this matter with a view to lifting the minimum to 2 in.

New South Wales had also desired a minimum of 2 in. in "Extra Fancy" in lieu of 2½ in. as recommended by Victoria, but after discussion, had not pressed for the lower minimum, thus the grades stood as originally drafted (minimum 2½ in.).

Continuing, Mr. Moore said he could not allow the opportunity to pass without expressing great appreciation for the stand taken by Mr. Ward in regard to the discussions on grading regulations. Mr. Ward had spoken not simply as an official who had to interpret the regulations, but had fought a good battle on behalf of growers, and his assistance was in-

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Harcourt Fruit Supply Co. Ltd. **New South Wales:** Griffith Producers' Co-op. Co. Ltd.
Victorian Central Citrus Assn. Ltd. **Batlow Packing House Co-op. Soc. Ltd.**

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Specialists in LARGE Consignments of QUALITY Fruits.

Our COOL CHAMBERS on the SELLING FLOOR of our WAREHOUSE are available for Consignors' Fruits THAT REQUIRE SPECIAL HANDLING. This service has been of great benefit especially with PEARS and over stocked markets.

OUR FLEET of MOTOR LORRIES assures SAFE and RAPID TRANSPORT from SHIP to WAREHOUSE.

EXTENSIVE CONNECTION THROUGH GREAT BRITAIN.
LIBERAL ADVANCES ON GROWERS' CONSIGNMENTS.

Victorian Representative:
ESMOND RUSSELL PTY. LTD., Representative for Tasmania, N.S. Wales,
395 Collins Street, Melbourne, South and West Australia, Queensland:
Victoria. E. JOHNS,
Australian Fruit and Produce Co.
6 City Markets, Sydney, N.S.W.

valuable in bringing the conference to a successful issue.

It was decided on the motion of Messrs. Hutchinson and Tully:

"That the reports be adopted and that the grades as defined by the conference be confirmed. Due notification to be sent to the Department of Agriculture."

N.S.W. FRUITGROWERS' ASSOCIATION.

Mr. Chas. Kaiser, of Sackville North, writes appreciatively of the "Fruit World Annual," but direct attention to the fact that additional associations in N.S.W. should have been included. He writes:

"The Citrus Growers' Defence Association, with Mr. W. J. Black, of Mangrove Mountain as President, and Mr. H. Gordon Bennett, of O'Connell-street, Sydney, as Secretary, has branches and affiliated organisations extending from the County of Cumberland to Grafton in the north and in the west to the Irrigation Areas. Then there is a Citrus Growers' Association in the Hawkesbury district with similar aims, which represents the views of 95 per cent. of the growers in that large area. President, Mr. J. W. Mitchell, of Windsor, Secretary, Mr. Bruce Boyd, of Wilberforce.

"Though not all growers are members, these Associations do represent the views of an overwhelming majority of them in all sections of the industry, pome, stone and citrus alike."

[We would like to include full lists of growers' associations in the "Annual" for all States.

Secretaries are asked to send in names of Associations and officers to the "Fruit World," 439 Kent-street, Sydney, or Box 1944 G.P.O., Melbourne.]

TASMANIAN FRUIT SHIPMENTS.

The Apple and Pear export season is getting into its stride. The following show the dates in March and April for delivering fruit at the Hobart wharf, "Albion Star," March 2 (loads also at Port Huon); "Mooltan" (March 3); "Hobson Bay" and "Ulysses" (7th); "Orion" and "Bendigo" (12th); "Somerset" (14th); "Ceramic" (18th); "Port Alma" (19th), loads also at Port Huon; "Clan Farquhar" and "Bitterfeld" (21st); "Talisman" (23rd); "Taranaki" (25th); "Oronsay" and "Viking Star" (26th). Pears for the "Albion Star" and "Viking Star" must be pre-cooled. "Mahia" (28th).

April.

"Port Fairy" (April 1); "Maloja" (2nd); "Clan Robertson" (3rd); "Esperance Bay" and "Ascanius" (4th); "Balranald" and "Stirlingshire" (8th); "Orford" (9th); "Stassfurt" and "Clan Colquhoun" (11th); "Meriones" and "Clan Macarthur" (18th); "Port Townsville" (22nd); "Moreton Bay" (24th).

HOME.

Home is a word with the sweetest ring,

But few can its spirit discern;
It is not a place or a composite thing,
Which we may inherit or earn.

Home is the light in an earnest face,
The tone of a tender voice,
The intercommunion of truth and grace,
That maketh the heart rejoice.

Oh, what comforting, blessed thought,
Where'er in the world we roam,
If we are but true to its spirit, naught
Can separate us from home.

MARKET NOTES AND PRICES

Sydney (24/2/36).—The market representative of the Fruitgrowers' Federation of N.S.W. reports as follows:—
Apples: Alex. 4/- to 7/-, Cleo. 4/- to 6/-, Grav. 4/- to 7/-, few 8/-, G.

Smith 5/- to 8/-, shipping lines to 9/5, Jon. 5/- to 8/-, few 10/-, King David 5/- to 7/-, L. Pippin 4/- to 6/-, McIntosh Red 5/- to 8/-, few 10/-, Prince Alfred 4/- to 5/-, Tri-vett 4/- to 8/-, Worcester Pearmain 5/- to 7/-, Pears: China 1/- to 3/6, Williams 4/- to 7/-, few 8/-, Bananas (N.S.W. and Qld.), 8/- to 11/-, Citrus: Grapefruit, U.S.A., Cal. 26/- to 28/- per one and one-third bush. case,



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Selected Agents for all Growers' Organisations Throughout the Commonwealth.

Wholesale Fruit Merchants — Licensed Commission Agents — Importers and Exporters.

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Commonwealth Bank of Australia.

£500 Fidelity Bond Guarantee.

few N.S.W. 6/- to 10/- bush. Lemons, local, 9/- to 18/- bush, inland 12/- to 18/- bush, plain grade 9/- to 14/-, Vic. 14/- to 18/-, S. Aust. 14/- to 18/- Vals., local, plain 2/- to 5/-, few standard 5/- to 8/- bush, inland, few only, 7/- to 9/-, special 10/- to 12/- bush. Figs, N.S.W. 3/- to 4/6 quarter bush. Grapes, N.S.W. (local), Black Hamburg 3/- to 4/-, few higher half bush, Black Muscat 4/- to 6/-, special 6/- to 7/6 half bush., White Muscat 6/- to 8/-, few 10/- half bush. Inland—Gordos 3/- to 5/-, Cornichon 4/- to 5/-, Black Muscat 3/- to 5/-, Waltham Cross 3/- to 6/6 half case, few choice higher. Nectarines, N.S.W. 2/- to 5/-, few special 8/- to 9/- half; Plums, N.S.W. Inland 2/- to 3/-, few higher half case; Peaches, N.S.W. 2/- to 4/-, Bathurst Hale's to 8/- half case, 6/- to 8/-, few 12/- bush. case. Persimmons, 2/- to 4/- half bush.; Passionfruit, N.S.W. 3/- to 8/-, special 9/- to 10/-, few 11/- half case. Pineapples, Qld. Queen 8/- to 12/- trop. case; Quinces, N.S.W. 4/- to 7/- bush.; Tomatoes, N.S.W. 2/- to 4/-, special 5/6 half, Vic. G. Valley 5/- bush.

SOUTH AUSTRALIA.

Adelaide (21/2/36).—Apples (eating) 4/- to 5/- case, do. (cooking) 3/- to 4/-; Apricots 8/- case, Bananas 16/- to 18/- crate; Figs, 7/- case; Grapes (dark) 8/-, do. (light) 7/- to 8/-; Lemons 10/- to 11/-; Nectarines, 14/-; Oranges (Common) 8/-, do. (Mandarin) 12/-, do. (Navel) 12/-, do. (Poorman) 4/-; Passionfruit, 20/-; Peaches, 7/- to 8/-; Pears (eating) 6/-, do. (cooking) 4/-; Pineapples, 14/-; Plums (light) 3/-, do. (dark) 3/- to 4/-, do. (Damson) 6/-, do. (Jap.) 4/-, do. (Prunes) 4/-, Quinces 3/- case.

VICTORIA.

Melbourne (27/2/36).—Quotations are at bushel case, except where otherwise stated:—Apples—Eating, 4/- to 6/-, few specials higher; do., cooking, 2/- to 4/6. Grapes, 4/- to 8/-; few special Walthams and Muscats to 10/-; wet and inferior lines lower. Oranges—Vals., average standards, 5/- to 9/-; few to 10/- and 11/-; selected standards, to 12/- and 13/-, best counts; specially selected to 15/-, with a few specials higher. Lemons—Average standards, 6/- to 9/-; good standards, to 10/- and 11/-; specially selected to 12/- and 13/-; Grapefruit—Standards, 6/- to 9/-; selected standards, to 10/- and 11/-; specially selected to 15/- and 16/-; Peaches, 5/- to 8/-, few special local grown, to 10/- and 12/-; Pears—Dessert, 3/- to 5/-; few special Williams to 6/-; Plums, 2/6 to 6/6; few specials higher. Bananas—Queensland (green), 6's 7/- to 8/-, 7's 9/- to 10/-, 8's and 9's 10/- to 11/- double case; few special higher. Pineapples—Qld., 7/- to 9/- double case; few special counts higher. Passionfruit, 8/- to 16/-; few specials higher. Tomatoes, 1/- to 4/-; few extra specials higher. Cantaloups, 3/- to 5/-; few specials higher.

The Melbourne market manager of the Federal Citrus Council of Australia reports sales as follow:—Vals.—Average standards, 75-84, 5/- to 6/-; 96-112, 7/-; 126 up, 8/- to 10/-, a few 11/-; selected standards, 6/- to 12/-, a few 13/-; specially selected, to 14/- and 15/-, best counts, a few higher. Grapefruit—Standards, to 8/- and 9/-; selected standards, to 10/- and 11/-; specially selected, to 15/- and 16/-; Lemons—Average standards, to 8/- and 9/-; good standards, to 10/-, a few 11/-; specials, to 12/-, a few 13/-.

QUEENSLAND.

Brisbane: Messrs. Robsons Ltd. report under date February 18, as follows:—There are still large quantities of local fruit coming to hand, although the bulk of the Plum and Peach crop is now finished.

Over the last few weeks the market has been heavily supplied with Apples, consequently prices are easier, best Jons. selling 7/- to 8/-, and G. Smiths to 8/-. Choice Muscatel Grapes are realising 6/- case. President Plums, which are coming from Orange, N.S.W., are selling to 6/-. Lemons have been in good demand and to-day realised 18/- case. Passionfruit to 10/-. Pineapples to 7/- per case. Southern Oranges to 9/-.

Some choice lines of W.B.C. Pears from Kentucky, N.S.W., are realising to 9/- per case.

All vegetables are in plentiful supply, Beans realising to 5/-, Peas 7/- bush., Tomatoes to 4/-, and Cabbages 12/- chaff bag.

Brisbane (21/2/36).—Messrs. Clark and Jesser report as follows:—During the month past our market has been well supplied with all lines of fruit and vegetables, the most notable feature being the large quantity of Oranges coming forward at this time of the year. The ruling prices at present are Apples: Jon. and Del. 7/- to 8/-, 2½ size 5/-, Granny Smiths 7/- to 8/-, inferior and hail marked 5/- to 6/-, Munro's 4/- to 5/-. Oranges: 125 to 160 counts 9/- to 10/-, 180 to 200 counts 5/- to 7/-. A large quantity of Oranges showing mould and of very green color are selling at lower rates. Grapes: Muscats 5/- to 6/-, G.C. and

Ascots 4/- to 4/6, Waltham Cross and Red Malaga 7/- to 8/-. Plums: Ponds 7/- to 8/-, Presidents and Grand Dukes 5/- to 6/-. Pears: W.B.C. 8/- to 9/-, Gansells 8/- to 9/-, Marie Louise 7/- to 8/-. Peaches, 4/- to 5/-. Quinces, 4/- to 5/-. Tomatoes very plentiful, 3/6 to 4/6. Cabbage, 10/- to 12/- chaff bag. Rough Pines, 7/- to 8/- case, Smooth's 5/- to 6/- case. Carrots are in heavy supply and selling 9d. to 1/- doz. bunches. Pumpkins, 4/- cwt. Bananas, 8in. 10/- to 11/-, 7in. 9/-, 6in. 7/-.

For some weeks past the weather here has been generally fine and hot, and business throughout the markets has been brisk.

The Brisbane Market.

Regular Consignors Get Best Returns.

Messrs. Hedley Geeves Pty. Ltd. advise, under date February 11, that growers would do well when consigning to Brisbane to send regularly, as it has been noted that some growers are inclined to cease sending should their fruit meet an unfavorable market, whereas very often the following week prices are up, and they miss the average of the consistent sender.

An instance of this occurred recently: the market for Williams Pears last week was 6/- to 8/-, and at the end of the week a truck load from Campbell's Creek, Vic., was sold at 11/—only two days after the dull market at 6/- to 8/-.

At the time of writing Stanthorpe Jonathans are on the market, and selling around 8/-. There will not be a market for Victorian Jons. yet, but later on there should be a good market.

Herbert Wilson Pty. Ltd.

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Nos. 1 and 10, Wholesale Fruit Market, Melbourne.

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EVERY CONSIGNMENT.

Cheques posted promptly.

Drop us a Line or Cable:
"Peachbloom," Dunedin.

Western Australia.

Perth (21/2/36). — Apples, Jon. flats 2/- to 7/-, dumps 2/- to 10/3; Dunn's, flats 2/- to 4/-, dumps 2/- to 6/6; G. Smith, flats 2/- to 3/-; Cleo., flats 2/- to 4/-, dumps 3/- to 7/-; other varieties, colored, flats 4/- to 8/-. Citrus: Val. Oranges, flats 2/- to 7/6, dumps 3/- to 10/1; Lemons, flats 6/- to 14/-, dumps 13/- to 15/-. Plums: Satsuma, flats 2/- to 6/6; Wickson, 4/- to 8/-. Burbank, 3/- to 6/-. Black Diamond, 3/- to 6/-. Delaware, 4/- to 6/6; Ponds Seedling, to 7/6; other varieties 2/- to 8/-. Peaches, 5/- to 12/- (special 13/6); Nectarines, 7/- to 14/-. Pears, Bartlett, ripe, flats 4/- to 9/-. green 2/- to 6/6, dumps 4/- to 8/-. other varieties 2/- to 3/-. Grapes, open, White 2/- to 5/6, closed 1/3 to 3/6, colored 5/- to 7/6, White Muscat. to 5/6, Black Muscat. to 6/-. others from 3/-. Passionfruit 2/6 to 5/6; Tomatoes 1/- to 9/-. Bananas 20/- to 26/- crate.

New Zealand.

Dunedin (13/2/36). — Messrs. Reilly's Central Produce Mart Ltd. report as follows:—Fair supplies of fruit and produce are arriving. Apricots, Peaches, and Nectarines are bringing satisfactory values. Heavy supplies of Greengages are coming to hand this season. Prices for Plums, Apples, Pears and Tomatoes, are fair.

TASMANIA

Leading Australian Firm of Fresh Fruit Exporters.
Manufacturers IXL Jam and Canned Fruits.
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All Orchard Supplies available at all times.
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Correspondence Invited.

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IN REFRIGERATOR or COOL, WELL VENTILATED 'TWEEN DECK specially adapted for Fruit Carriage and fitted with powerful Electric Fans.

FAST MODERN PASSENGER VESSELS

Sail every Wednesday and Saturday for Sydney and Brisbane.
Sail every Saturday for Townsville and Cairns.

CARGO VESSELS sail Weekly for Sydney and Brisbane (Tuesdays).

SPECIAL REDUCED RATES OF FREIGHT.

FURTHER INFORMATION, SAILING DATES, ETC., WILL BE GLADLY SUPPLIED ON APPLICATION TO THE UNDERMENTIONED COMPANIES AT MELBOURNE:—

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SPECIAL NOTICE TO FRUITGROWERS

In response to numerous requests from growers for information as to who are members of the

Wholesale Fruit Merchants' Association of Victoria

the following list is given. All are members of the above Association, and are registered firms carrying on business in the

WHOLESALE FRUIT MARKET, MELBOURNE.

STAND NUMBERS ARE AS INDICATED IN PARENTHESES.

- T. STOTT & SONS (26).
- H. L. E. LOVETT & CO. (23).
- A. E. PITT (14).
- J. DAVIS PTY. LTD. (8).
- W. S. TONG (31).
- SILK BROS. PTY. LTD. (24-25).
- J. G. MUMFORD (35).
- GOLDEN VALLEY FRUIT CO. PTY. LTD. (15).
- J. W. ROSS (13).
- H. M. WADE & CO. (21).
- DAVID SMITH PTY. LTD. (3).

Correspondence is invited by the Association.

Increased consignments of Cox's Orange Apples have been received from Nelson, but unfortunately, some of this fruit is affected with bitter pit, and consequently is hard to quit.

Prices (per case): Cal. Lemons 65/-, N.Z. Lemons 14/- to 16/-, Cal. Grapefruit 35/-, Cal. Navels 43/-, Jap. 38/6. Apples, Grav. 5/- to 7/-, Cox's Orange 8/- to 10/-, Alfr. 4/- to 5/6. Pears, W.B.C. 5/6 to 7/- (per half case): Outside Cucumbers 2/6 to 3/-, Nelson Tomatoes 4/- to 5/-, Peaches 3/6 to 5/6, Apricots 5/- to 7/3, Desert Plums 3/- to 4/6, Satsumas 4/- to 6/-, Kirks 5/-, cooking Plums 2/6 to 3/-, Nectarines 4/- to 6/3, Bon Chretian Pears 2/6 to 3/3.

FIRMS IN THE FRUIT TRADE

FRANK BOOTH & SONS PTY. LTD.

(No. 7 of Series.)

MR. FRANK BOOTH, Senior, is one of the old hands in the fruit business in Melbourne. He started handling fruit nearly 45 years ago, when he was attached to the staff of the Australian Wine and Fruit Agency Company, in Collins-street, when all fruit was sold by

has seen a marked improvement in the quality, grading and packing of fruit in recent years, he still maintains that it can be still further improved and that both quality and packing cannot afford to be lowered.

A Family Business.

After returning from the World War, one son, James, joined his father and brother in the business, and was followed shortly afterwards by Frank, junior, making the business even more a family tradition. The first of the third generation of Booths, in the person of George's son, Ronald, was some years later absorbed into the business, so that although Frank, junior and Ronald, have now entered other fields of business, the present management is still in the hands of the family as represented by the founder, Mr. Frank Booth and his two sons, George and James. With the latter so well able to carry on, Mr. Frank finds time to roll an occasional game of bowls, and is said to be quite an expert.

Equipment.

But not only has the firm the experience of many years in fruit marketing as an asset, but its premises are equipped for handling every variety of fruit in season. The Banana ripening rooms give to buyers the advantage of inspecting the fruit and selecting such as will be ripened suitable for their needs upon a stipulated date. The rooms are also used for the ripening of early season Pears and Tomatoes, and with slight alteration they can also be converted into ethylene gas chambers for coloring citrus fruits when necessary.

Peas and Beans.

Although previously not a major department of the business, the company has reserved space in the new buildings now being erected at the Victoria Market in which they plan to develop the trade in Peas and Beans. A special staff will be appointed, and the direction of this department will be under the personal management of one of the principals.

Packing.

Mr. George Booth states that the company does not approve of the use of secondhand cases for the sale of fruit in the wholesale markets, especially does this apply to grapes. Clean new cases, neatly stencilled, go half-way towards selling the fruit advantageously and expeditiously, and his experience is that fruit so packed by growers, whose uniform quality has created a reputation, is cleared much more quickly and satisfactorily than fruit, however good, in used cases.

Fruit from growers with a reputation for consistent quality and packing, elicit forward orders from buyers who never see the fruit until it is delivered to their shops. This is only one argument in favor of clean, careful packing.

The Booths take a keen interest in all phases of the marketing of fruit and strongly advise growers to eliminate all marked and faulty samples, and so stimulate the growing public demand for quality fruit. The business of the company has always been, and still is marked by a keenness to detail and service to both growers and retailers that has carried it so successfully through three generations of this family of wholesale fruit merchants.

- SILBERT, SHARP & DAVIES PTY. LTD. (17)
- W. A. WATKINS (5).
- P. A. PATRIKEOS (36).
- G. WOOLF & SONS (29-30).
- F. CAVE & CO. PTY. LTD. (9).
- R. CORNISH & SONS (5).
- J. HYMAN & SON (51).
- HERBERT WILSON PTY. LTD. (10).
- FRANK BOOTH & SONS PTY. LTD. (16).
- GEO. LISTER PTY. LTD. (12).
- TIM YOUNG & CO. PTY. LTD. (18).
- F. W. VEAR PTY. LTD. (28).
- YEE HOP LOONG & CO. (32).

Office : 21 Wholesale Fruit Market,
Queen Street, Melbourne. Phone F 4866.

The Home Circle

THE DUCTLESS GLANDS—(Concluded)

Reproduction and Birth Control.

Health Maintained by a Simple Diet of Fruits, Vegetables and Grains.
(By Lois.—No. 7.)

IN THIS ISSUE we will conclude our study of the ductless glands by seeing how these various agencies affect the health and functioning of the human body. Let us consider them in the following order:

The Thymus Gland.

The home of this gland is in the chest, just behind the breast bone. There is still much to be done in the research field in regard to this gland, but investigators have proved enough to know that the size and condition of this gland is a true indication of the state of nutrition of the whole of the body. They tell us that it regulates the growth of childhood, keeping the child childish so to speak. When this gland is upset the child becomes very precocious, too old for its years; so to prevent this taking place, this gland applies "the brake" on all the other glands, and brings along normally the physical and mental growth of the child.

It also influences the sex glands, balancing those processes which bring about changes from childhood to puberty. As the child advances in years this gland should diminish in size, and if this does not take place a childish disposition remains with the individual into maturity.

The Pancreas.

The pancreas is a gland containing a set of glands, and lies in close relation to the stomach. It produces both internal and external secretion. The large part belongs to the lymphatic glands, and its fluid is emptied into the small intestine, and is a most important aid in the digestive process. The internal secretion is made by the small set of glands, and when there is a deficiency of this fluid "diabetes" is the result.

The work of the pancreas is to hold and conserve the necessary amount of sugar in the body and to create energy and heat, so it has to see that the liver, which is the sugar storehouse, is well stocked with sugar. When there is not enough of this fluid manufactured, the liver is unable to handle, and retain the sugar as it should, and through this the body then is unable to burn up its sugar necessary for heat production, so it is lost to the body and is carried away to waste in the urine.

The Gonads—"The Glands of Reproduction."

This term applies to all the generative organs, and these are both internal and external producers. The internal secretion is of enormous importance, because it governs the period of changes in the growth of the body, namely—childhood, adolescence and maturity. The fear and dread with which the latter change is usually approached are quite unnecessary, and the sooner we give over being sorry for ourselves and become willing to learn the cause of these unhappy conditions, and adjust to natural law, the better for ourselves and everybody else. We can make ourselves just what we will.

"Birth Control."

The external gland is concerned with the reproduction of the species, and every thinking person knows the importance of healthfulness in this department of life. Everything is governed by "after its kind," so if the parents want their children to have strong, healthy bodies they themselves must first have that as-

set, and the little couplet given in a previous issue is the key to this very desirable condition. "Birth control" is "self control," the practice of which would mean fewer imbeciles, abnormalities, sexual perverts and all the other unlovely traits that follow in the wake of sexual excesses.

It is well to think these things over. We all desire health, and without working for it, we would wave the "fairy wand" over ourselves, but it does not come that way. Our ductless glands will take care of all the intricate workings of our bodies, and will lead us safely into "Paths of Peace" if we wisely supply to them the necessary food chemicals for the purpose. They are all found abundantly in our luscious fruits, vegetables, grains and natural products.

Introduce simplicity in the daily meals, avoid all denatured and processed foods, learn to combine foods that harmonise chemically, such as those given in a table suggested in a previous article, and when making the experiments, above all, do not be afraid: "Fear hath torments that kill," you know. One has to keep on trying to find the balance, but it will be well worth the effort, and you will surely be surprised at the result. —Yours for better health, LOIS.

USE THESE RECIPES.

Jellied Fruit Salad With Eggs.

One ounce gelatine, 3 cups boiling water, juice of one Lemon, or 1 dozen Passionfruit, sweeten to taste with honey. Pour into glass dish to set, when thickening press into it sliced Bananas, sliced Peaches or Pears. Allow to set firmly, and serve with liquid cream. Eaten as dessert after scrambled or egg omelettes this makes a balanced meal. (No bread is necessary. Makes an excellent summer breakfast dish.)

Baked Apples for Breakfast.

Select large Apples, core and stuff with stoned Dates, and bake.

Make custard in double boiler, flavor with Almond essence and sweeten with honey. Serve cold on Apples with one or two grated Almonds or chopped Walnuts sprinkled over.

With or without wholemeal biscuits and butter.

Sponge Drops.

Two eggs, quarter lb. brown sugar, quarter lb. wholemeal flour, and half teaspoon baking powder. Beat eggs and sugar fifteen minutes, add flour and baking powder. Drop half teaspoonful lots on buttered tray. Leave room for spreading. Bake 12 minutes. When cold place together with whipped cream.

Banana Cream.

Soak $\frac{1}{2}$ ounce gelatine in one cup cold milk. Dissolve it over the fire with one cup of Banana pulp. Add three tablespoons of honey, and the juice of one Orange. When cool, mix in half cup of cream. Pour into a wet mould and set.

Jellied Grapes.

Mix 1 ounce of gelatine in cup cold water. Add two cups boiling water, the juice of one Lemon, four tablespoons honey. When cold, add 3 cups of any good Grapes, washed, split and seeded. Set and serve with plain or whipped cream.

Beekeeping Notes

BEEKEEPING AS A HOBBY.

A rather large number of people keep bees as a hobby, and they get much enjoyment from it. There are a number of our prominent beekeepers to-day who first kept bees as a hobby, and later became enthusiastic enough in their work to extend it to the commercial stage, finally specialising in bees. It is only to be expected that the person working bees as a hobby is likely to gain a better knowledge of apiculture than others working them with little thought except for the monetary returns. It is a pleasure, generally, to visit the "hobbyist's" apiary; it is kept right up to date and worked on the most modern lines. Thus writes Mr. W. A. Goodacre, Senior Apiary Instructor, in a recent issue of the N.S.W. Agricultural Gazette.

If every person working a few hives would make a real hobby of it, the bee industry would benefit considerably. It is found too often, however, that the backyard beekeeper's interest in the apiary does not extend beyond "robbing" the hives and disposing of any surplus honey, in any old container, at a ridiculously low price. Poor types of bees are generally kept and these interfere with the breeding in a neighbor's apiary, and there is also the risk of spreading disease, apart from the fact that this inferior and poorly processed produce, retailed at a cut price, tends to depress the market and detracts from the popularity of honey as a foodstuff.

In many districts not favorable for commercial bee farming a few hives kept by some enthusiast often serve a very useful purpose. Apart from supplying honey for home use, bees assist in the work of cross-pollinating fruit trees and plants.

How to Make a Start.

The less troublesome way for the "hobbyist" to make a start is, after making himself conversant with the general principles of beekeeping, to purchase a modern hive and fit the frames in it with full sheets of comb foundation. Then obtain from some reliable beekeeper a good swarm, or perhaps a colony could be secured from a bee tree.

There are cases, of course, where a stray swarm clusters in the backyard and thus presents the enthusiast with an opportunity to start. Such a commencement, however, is often the cause of much trouble later. In many cases the swarm is placed in any old box, and even when an attempt is made to fit the box with frames the result is often unsatisfactory. Usually the fitting of comb foun-

dation in the frames is overlooked, with the result that the bees build the combs crossways. Of course, if the right type of hive is secured and the bees transferred to it, the adventure soon develops into an interesting hobby.

The site for the small apiary should be a selected one, a quiet, well-drained part of the yard where the bees will get a good deal of the morning sunshine. The appearance of a few bee hives nicely set up and kept well painted gives that added interest that means so much to the "hobbyist."

The Breeding of Bees.

Beekeeping as a hobby cannot really be successful unless attention is given to the breeding of the bees. In working a few colonies only it is neither expensive to purchase the required number of Italian queen bees nor is it much trouble to introduce the new stock.

After a time, when the enthusiast gains experience, queen bees can be raised in the apiary to provide any replacements desired.

The Working Outfit.

It is necessary for the comfortable control of the bees and the proper manipulation of the hive to have a bee veil, a bee smoker, and a hive tool.

A small honey plant is also an important addition to get the best out of the hobby. A single-frame slinger honey extractor will prove handy and will preserve the combs for further use. A two-frame extractor or similar machine is preferable to a slinger, but, of course, is more expensive.

A cappings reducer, a primus stove, a couple of uncapping knives, and a small honey tank are sufficient for the work in the honey room. For uncapping the sealed combs previous to extracting the honey, the knives are kept heated in the reducer, which is filled with water and kept heated over the primus. The cappings are melted in the reducer as work proceeds, being later drained into a tinned vessel with flanged sides, where the wax will become a solid block and can easily be separated from the honey.

Beekeepers may be concerned about any increase in the number of neglectful backyard beekeepers, but this does not apply to the interested "hobbyist," who can be depended upon to work his bees in the right way and who in other directions is serving a useful purpose.

"The Beginner in Bee Culture" is a booklet that will be most useful to readers who wish to do things the right way. It may be obtained from

SUBSCRIPTION ORDER FORM

To the Manager,
The "Fruit World"—

Sir—Enclosed please find remittance for a year's subscription to the "Fruit World & Market Grower," commencing with the next issue.

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8-10 Orr St., off 78 Victoria St.,
Melbourne, Vic.

N.S.W. OFFICE:
439 Kent Street,
Sydney.

BEEKEEPING—

(Continued from Page 39.)

the N.S.W. Department of Agriculture, Sydney, in return for 1/1, and the sender's address.

HONEY FOR WOUNDS.

The use of honey as an antiseptic and wound dressing is claimed to be very effective by Dr. N. Zaiss, of Vienna. The wound is completely filled with strips of gauze dipped in honey. In 24 hours the wound is found to be perfectly clean, any pollution in the wound adhering to the dressing material, which is changed daily. At first the wound smarts a little, but that feeling gives place to a cooling and soothing condition. This simple dressing should be readily available and easily applied and stop any possibility of blood poisoning.

Pig Pen

Digestive Disorders in Pigs.

(By E. J. Shelton, Senior Instructor, Queensland.)

OF all the troubles to which sucking and weaner pigs are subject (including pigs up to three or four months of age), none has such a severe effect upon the young animal as diseases of the bowels, whether it be a tendency to constipation or white or yellow scour, or diarrhoea, or dysentery. These latter troubles are the worst of all, and as such they have a variety of causes, most of them probably being associated with the food and housing.

Scour or diarrhoea in sucking and weaner pigs is usually brought on through some derangement in the food supply of the sow; her food may be too plentiful, too rich, or it might have been suddenly changed from one class to another. Too much food is just as harmful as too little. Food that is too watery, fibrous, or unpalatable may induce the trouble. A sudden change in the weather may be a cause; cold westerly winds, especially after heavy rain, are often disastrous. Pig shelters, sties, houses may be cold and draughty; or they may be ill-ventilated, stuffy and insanitary. Musty, mouldy, stale and sour foods, very hot or very cold soup with an excess of fat, buttermilk, skim milk or whey adulterated with an excess of water, decaying vegetable matter—these are all possible causes.

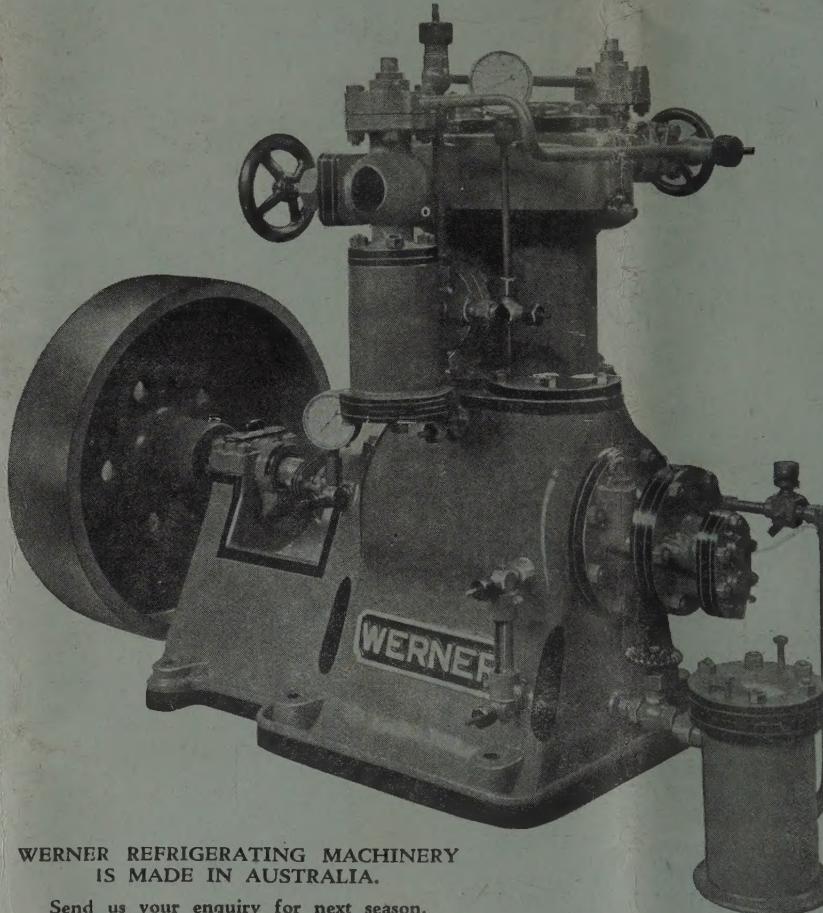
Lack of mineral matters in foods otherwise of good quality, and fed in proper quantities, is regarded as a common cause. One writer says: "Apparently the store of iron they possessed when they were born has been used up in making blood as they grow and a fresh or added supply is needed." It was this phase that induced investigations to attempt the feeding of iron and other necessary minerals through the sow, in the hope that the chemical content of her milk would be improved. It is evident, however, that if the milk of the sow is deficient in iron, she herself must be suffering, and probably the dosage given has been just sufficient to make up her own bodily requirements, and the feeding of excess is unproductive.

Experiments have been made to apply iron solutions to the sow's udders, or anywhere the little pigs might lick, but have not been altogether successful, because the young pigs do not seem to like the bitter taste of the iron. It has been found that iron preparations containing traces of copper are more effective. It is recorded that the mixture of iron and copper drugs does not keep well, hence small quantities only

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should be prepared. In all cases a preliminary treatment in which each pig suffering or in contact is given one or two teaspoonsful of castor oil, is advised.

It such treatment is not effective, the advice of a Departmental expert should be sought, for almost every case requires a different method in treatment. Very young pigs, while still sucking the sow, may pick up scraps of food material, or may lick up impure water, urine, etc., which set up intestinal disorders, which, if not immediately checked, may predispose to pneumonic troubles and general ill-health. Young pigs should be allowed a liberal supply of clean drinking water in addition to other feeding stuffs, this applying to suckers as well as to weaners and older pigs.

ROUND THE WORLD BY RADIO.

A new radio feature shortly to broadcast in Australia is claimed by its sponsors to embody something entirely new and different from any-

thing previously presented in Australia. In this new and entertaining series which is entitled "Ports of Call," the listener is taken on a personally conducted tour to different countries of the world. At each half-hour session, a new country is visited, and by means of vivid, realistic acting and clever sound effects, the highlights of that country are dramatically presented.

A full symphony orchestra tells the country's story in music. More than twenty well-known actors from the film world tell the country's story in a series of miniature dramas of ever-changing scene. One moment we are in the midst of the clamor of battle, as Ferdinand and Isabella drive the Moorish invaders from Spain; the frenzied shouts give place to a devotional hush, broken only by the blessing of the Cardinal, as thousands of worshippers kneel in prayer at the festival of Corpus Christi in Seville.

Music, art, history, literature, humor and tragedy, these are the colors used by the artist in painting this picture in sound which should pro-

vide both entertainment and knowledge for the listening audience.

"Ports of Call" begins a long season on Tuesday, March 17, at 8 p.m., and will be broadcast at this hour on Tuesdays and Thursdays evenings over 3UZ.

CANADIAN FRUIT IN U.K.

Heavy Supplies and Market Weak.

Large Green Cookers in Demand
Owing Shortage English Bramleys.

In mid-January the Canadian Trade Commissioner in London advised that the demand was slow for barrelled Apples and market weak for boxed Apples. Prices in London, Hull, Liverpool and Glasgow ranged around the following: Jon. ex. F. 8/- to 9/6, Fancy 7/9 to 9/6; Newtown, ex. F. 9/9 to 11/6, Fancy 9/6 to 10/-; Del., Fancy 7/6 to 9/6; McIntosh, Fancy 7/6 to 8/-. Large green cookers were wanted owing to shortage of English Bramleys.

At the time of the report there were large supplies afloat from Canada and U.S.A.